ALL ABOUT HISTORY

NEW

Disaster plan

How Mao's Great Leap Forward left a nation staring into the abyss

10 HEROES OF MEDICINE

The pioneers who changed the world by saving lives

VIKING

Why Harald Hardrada was the last of his kind

+

British Raj
Alexandria
Aviation
Great Wall of China
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THE MAKING OF CHURCHILL

His upbringing, ambitions and ideologies

The birth of Prohibition

The story of why America went dry

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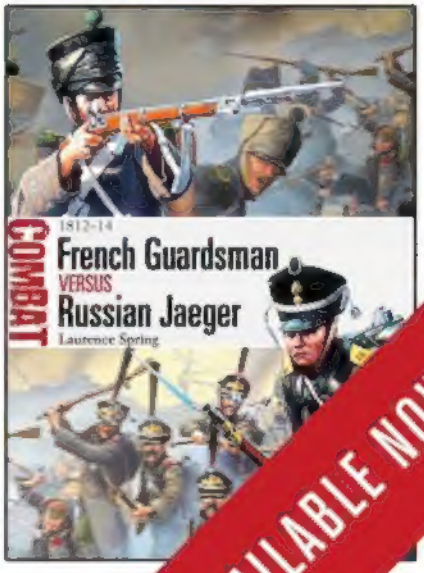

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Welcome to issue six

"Success consists of going from failure to failure without loss of enthusiasm" is one of many quotes by Winston Churchill that is in equal measure poignant, flippant and imbued with truth. The figure that the world tends to think of when considering him is that of the great world leader, standing defiantly against the Nazi forces. But Churchill didn't emerge as Britain's war leader fully formed; he had already lived a long life packed with success and failure.

Our feature on page 48 examines what made Churchill the man that he was and peeks beneath the often-viewed surface of the great oratory war leader to look at his upbringing, experience in previous wars and political ideals to discover why in 1940 Churchill and Britain were such a perfect fit.

There are all of our usual regulars this month – which we hope you are coming to love as much as we do – and they've kept up the high standard set by their predecessors. Our 'What If' on page 30 asks what would have happened if the Soviets had won the space race, and this issue's 'Heroes and Villains' on page 42 discusses the ultimately tragic Maximilien de Robespierre, a major figure in the French Revolution.

Throughout the magazine our website address is displayed, which is regularly updated with bespoke and fresh history content. To get your history fix in between issues, make sure you check it out.

Andrew Brown
Editor

This issue's highlights

Eye witness
We get a first-hand account of the Zvornik massacre in Bosnia and the confusion and terror that followed from award-winning journalist Martin Bell

Last Viking King
Harald Hardrada is considered by many to be the last true Viking king – a ruler who plundered and invaded other countries for riches and glory

Disaster Plan
Chairman Mao's plan to propel his country into the industrial age led to the death of tens of millions through starvation and state executions

A triumphant Churchill salutes the crowd with a victory sign after the end of WWII **Page 48**

© Alamy

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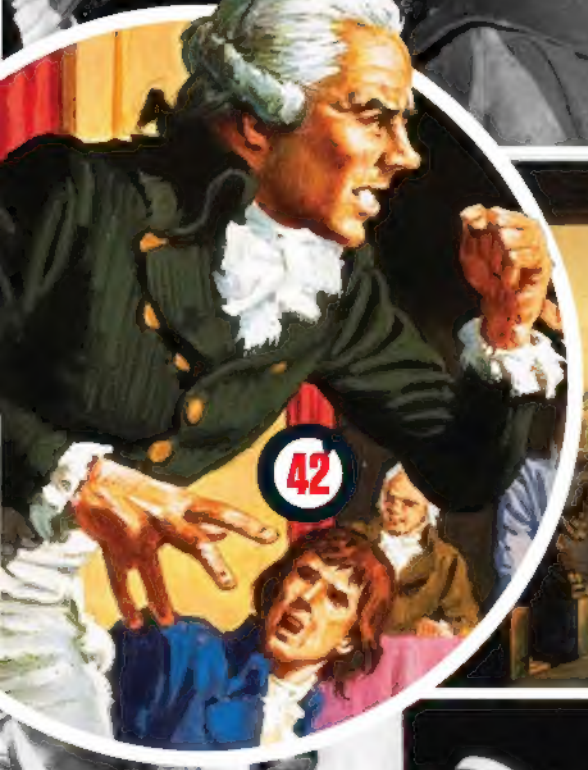

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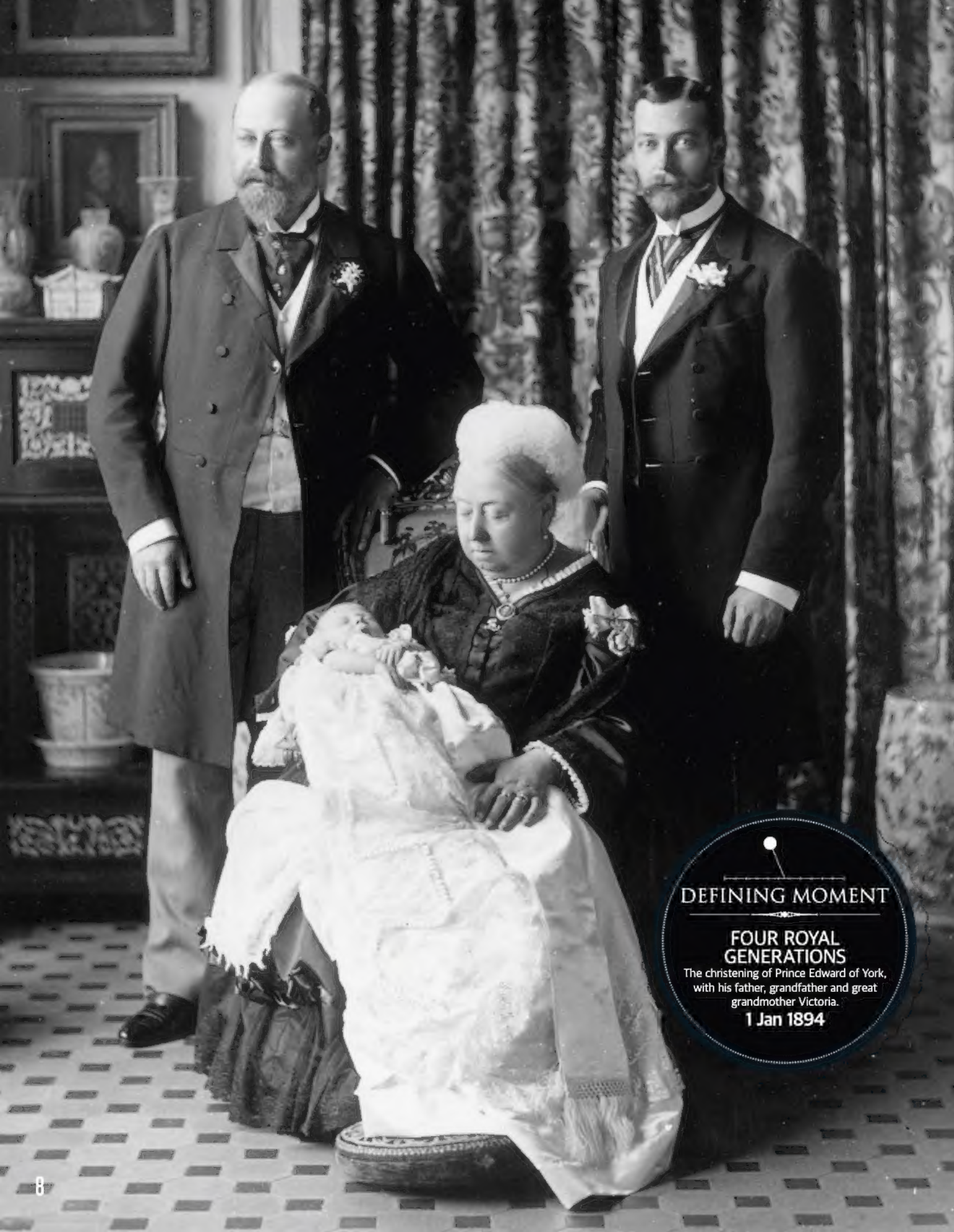
DEFINING MOMENT

THE MGM LION ROARS

Members of the MGM production team film Jackie the lion roaring for the company's famous opening credits. The lion pictured was actually the second lion the company used, but the first where new recording equipment captured the now iconic roar that is known around the world.

1929

©Mary Evans Picture Library



DEFINING MOMENT

FOUR ROYAL GENERATIONS

The christening of Prince Edward of York, with his father, grandfather and great grandmother Victoria.

1 Jan 1894

DEFINING MOMENT

CONSTRUCTION OF AN ICON

A year into its construction, the tower built as the entrance arch to the 1889 World's Fair in Paris sits half built.

1888

© Corbis

DEFINING MOMENT

EMBASSY HOSTAGES RELEASED

A plane carrying freed hostages from the American embassy in Iran lands in Frankfurt airport, Germany. Over 50 Americans were held hostage for 444 days after the embassy in Tehran was taken over by a group of Iranian students supporting the Iranian Revolution. The hostages were released after America and Iran signed the Algiers Accords.

1981

Drs. Cushing and Young in the operating theatre being observed by physicians

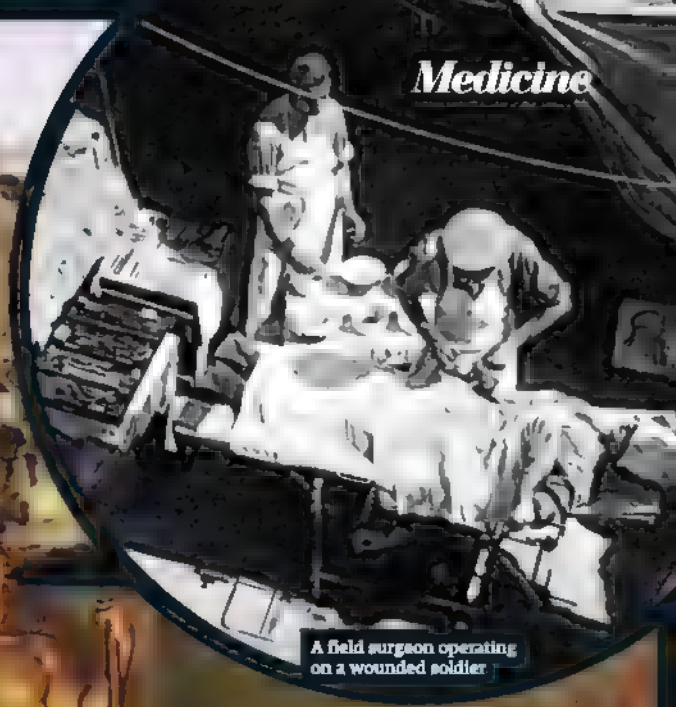
Medicine

A HISTORY OF LIFE-SAVING SCIENCE AND GENIUS

Ibn Sina writing while surrounded by books

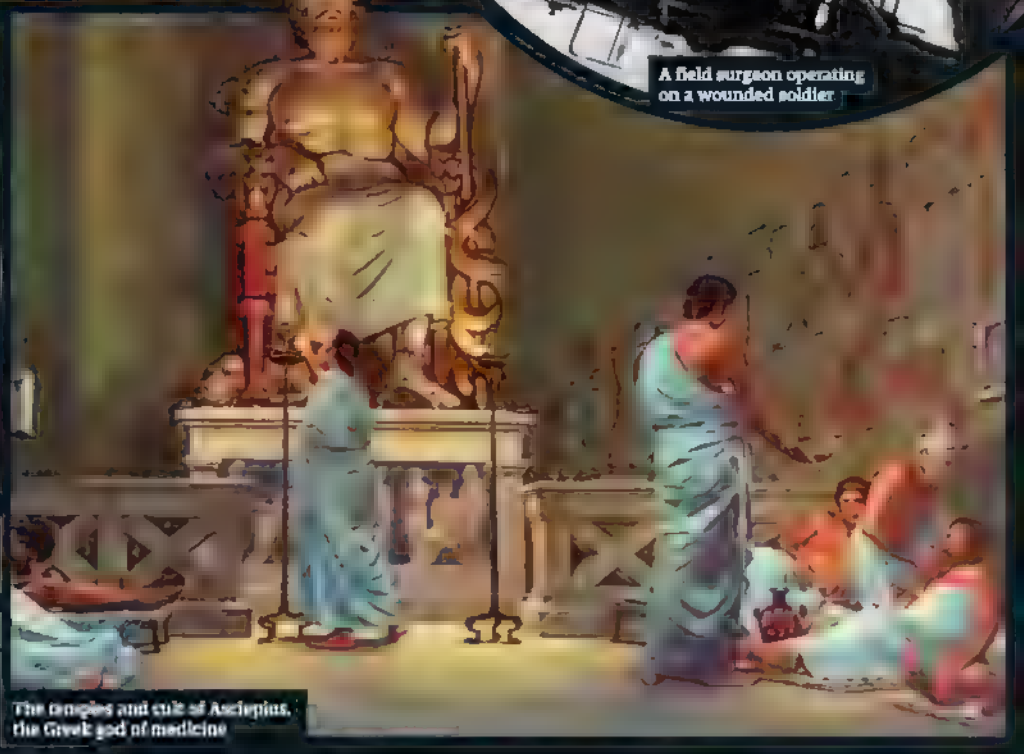
Edward Jenner performing the first vaccination against smallpox in 1796

Nightingale receiving the wounded at Scutari

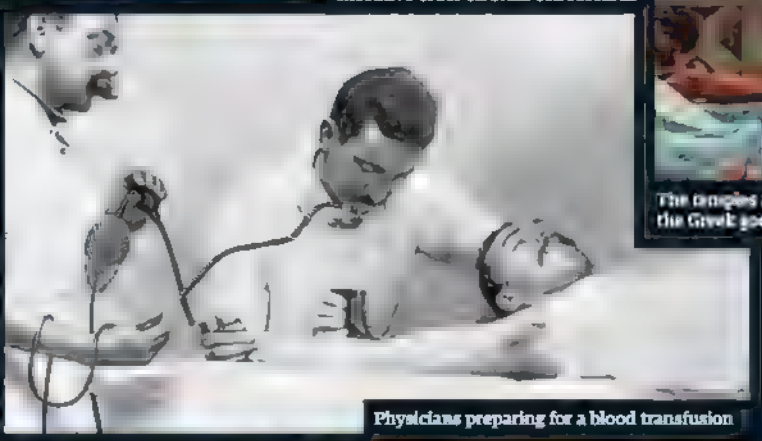


A field surgeon operating on a wounded soldier

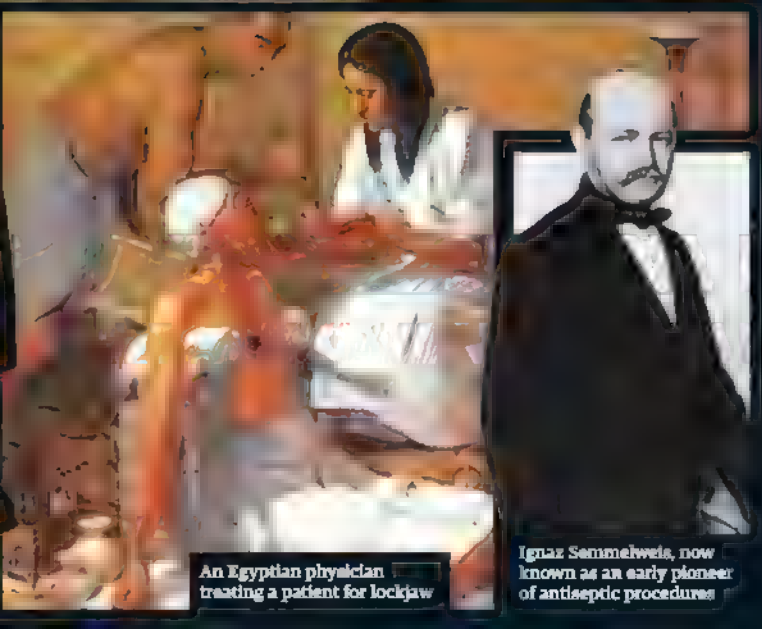
US President Barack Obama signs an executive order on stem cell research



The temples and cult of Asclepius, the Greek god of medicine



Physicians preparing for a blood transfusion



An Egyptian physician treating a patient for lockjaw

Ignaz Semmelweis, now known as an early pioneer of antiseptic procedures

From the dawn of man to the present day, good health has always been our most fundamental need – get up to speed with how medicine has evolved

This issue

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Hippocrates, the 'father' of medicine

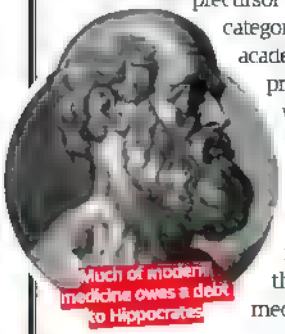
(c) Corbis; Getty; Mary Evans; Alamy

Medicine across history

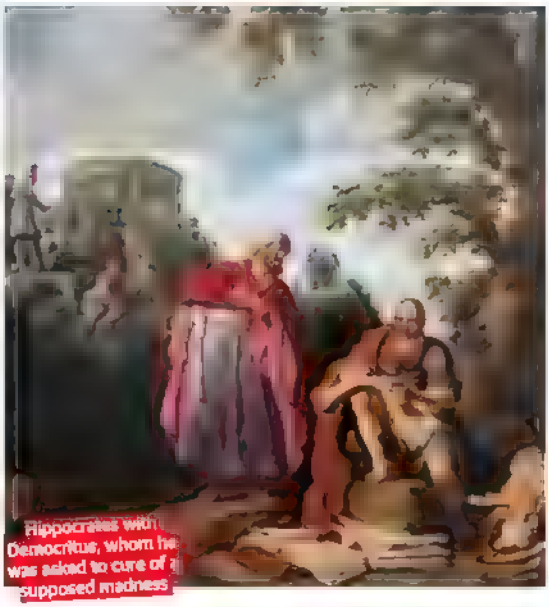
FATHER OF MEDICINE

GREECE 460BCE

Hippocrates, the father of Greek and arguably the entirety of Western medicine, is probably the most important person in the whole history of the field. Not only did Hippocrates institutionalise the scientific study of medicine and define what a doctor's role was – as well as giving us the Hippocratic Oath that all doctors are sworn to abide to – he also made many discoveries, such as a precursor to aspirin and played a huge part in first categorising illnesses. He wasn't just a hands-off academic, either, with records showing that he practised what he preached, becoming the world's first documented chest surgeon. Interestingly, while Hippocrates' medical teaching was widely accepted in ancient Greece, after his death, medicine as a field largely stalled, with old practises recommencing. It was arguably not until the time of Galen over 500 years later that medicine began to advance once again



Much of modern medicine owes a debt to Hippocrates

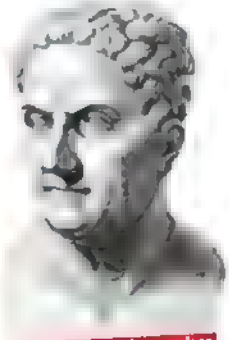


Hippocrates with Democritus, whom he was asked to cure of a supposed madness

Galen is born

ROME 130CE

Prominent Roman physician and philosopher Galen is born. He proceeds to become the world's foremost medical authority, being the personal physician to a number of Roman emperors.



Galen treated a number of Roman emperors

Medicine timeline

Imhotep diagnoses
The famous Egyptian architect and priest diagnoses over 200 ailments and describes medical treatments for them all. **c.2600BCE**

Materia medica
Greek physician Pedanius Dioscorides completes his great work, *De Materia Medica*, a comprehensive text book on medicine. **c.50-70CE**

Pedanius Dioscorides

The Book of Healing
Renowned Persian physician Avicenna writes *The Book of Healing* and then, later, *The Canon of Medicine*, two authoritative medical textbooks. **1027CE**

Avicenna

Andreas Vesalius
Brabantian anatomist Andreas Vesalius publishes his great medical work entitled *On the Fabric of the Human Body*. **1543CE**

Blood transfusions
English architect Sir Christopher Wren was one of the first people in history to experiment with the idea of blood transfusions. **1657CE**

Sir Christopher Wren

Smallpox in Venice
Venetian physician Giacomo Pylarini gives the first recorded smallpox inoculation to the children of the English ambassador to Constantinople. **1701CE**

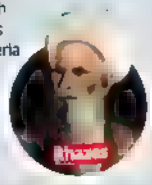
3000 BCE | 500 BCE | 400 BCE | 300 BCE | 0 | 100 | 200 | 1000 | 1200 | 1500 | 1550 | 1600 | 1650 | 1700 | 1750 | 1800 | 1820 | 1840

Pythagoras

Alcmaeon of Croton
Alcmaeon of Croton, a pupil of the famous Pythagoras, identifies Eustachian tubes and advocates the use of dissection. **c.500BCE**

Eat well
Famous Greek physician Diocles of Carystus produces the first systematic textbook on animal anatomy and pushes the importance of diet and nutrition. **c.300BCE**

Smallpox identified
Persian polymath Rhazes identifies the deadly bacteria smallpox for the first time, differentiating it from measles. **910CE**



Rhazes

Bacon is all eyes
English philosopher and scientist Roger Bacon conducts pioneering research into the anatomy of the human eye, creating a crude precursor to modern glasses. **1249CE**

Blood cells
Nicknamed the 'Father of Microbiology', Antonie van Leeuwenhoek discovers blood cells for the first time. **1673CE**

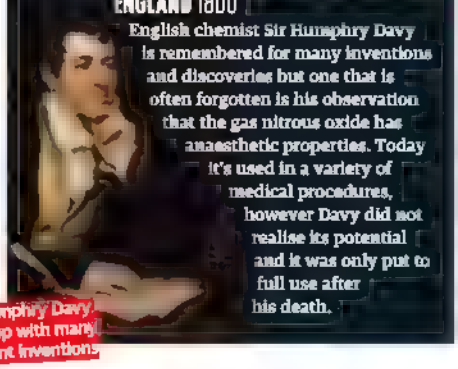
Antonie van Leeuwenhoek

Vaccine invented
English physician Edward Jenner develops the process of vaccination for smallpox, using cowpox to prevent the deadly disease. **1796CE**

Nitrous oxide utilised

ENGLAND 1800

English chemist Sir Humphry Davy is remembered for many inventions and discoveries but one that is often forgotten is his observation that the gas nitrous oxide has anaesthetic properties. Today it's used in a variety of medical procedures, however Davy did not realise its potential and it was only put to full use after his death.

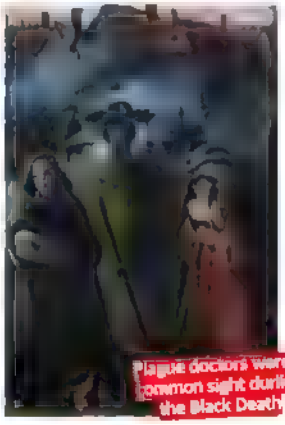


Sir Humphry Davy came up with many different inventions

Bubonic plague combated

RUSSIA 1897

Of all the terrible diseases it was possible to catch, one of the worst was the bubonic plague, with hundreds of thousands of people throughout history dying in great pain and with awful deformity. That all changed when Russian bacteriologist Waldemar Haffkine developed a vaccine against the deadly disease and, after human trials – the first of which was on himself – started to distribute the vaccine.

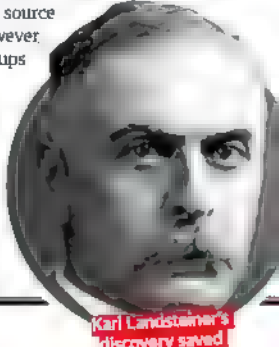


Plague doctors were a common sight during the Black Death

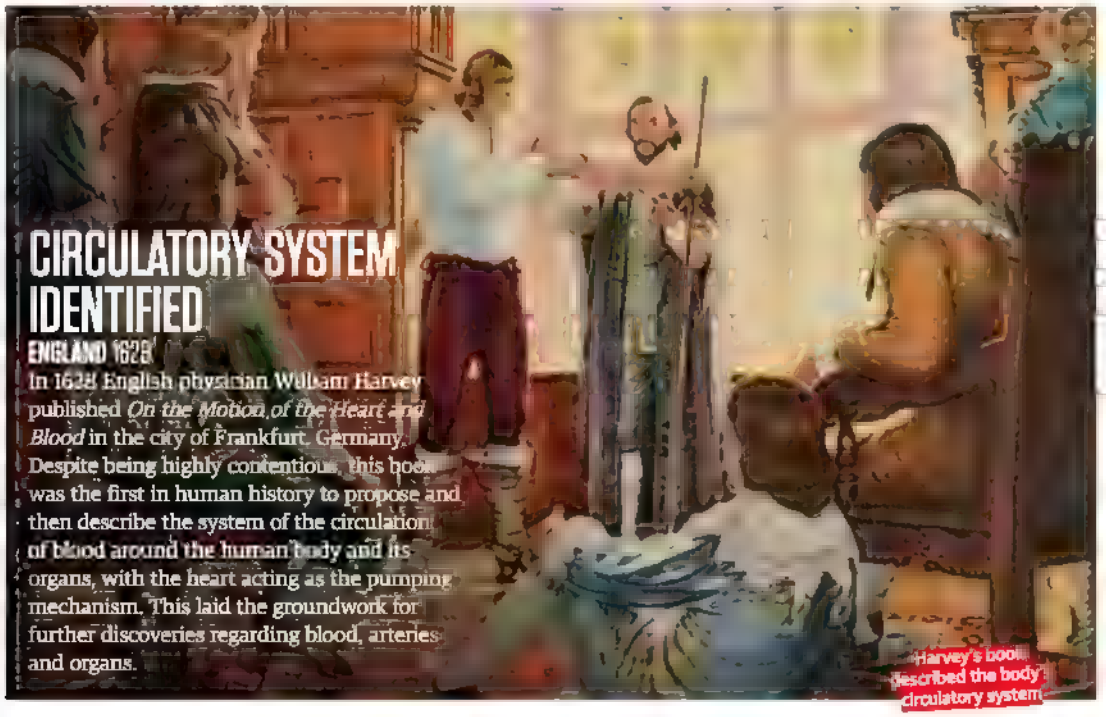
Blood groups defined

AUSTRIA 1901

Today we take blood groups for granted, with each individual aware of their specific type. This has made any procedure where blood transfusions are necessary considerably safer, with patient records enabling doctors to source the correct blood type. However, the main human blood groups were only defined in 1901 by Austrian biologist and physician Karl Landsteiner. Thanks to this discovery, the first successful blood transfusion was carried out on a human a few years later.



Karl Landsteiner's discovery saved countless lives



CIRCULATORY SYSTEM IDENTIFIED

ENGLAND 1628

In 1628 English physician William Harvey published *On the Motion of the Heart and Blood* in the city of Frankfurt, Germany. Despite being highly contentious, this book was the first in human history to propose and then describe the system of the circulation of blood around the human body and its organs, with the heart acting as the pumping mechanism. This laid the groundwork for further discoveries regarding blood, arteries and organs.

Harvey's book described the body's circulatory system

Cure for scurvy

SCOTLAND 1747

Prior to the mid-18th century, scurvy – a disease resulting from a deficiency of vitamin C – was a major problem for sailors, with their months at sea depriving them of a balanced diet. In 1747, however, Scottish naval surgeon James Lind discovered that by consuming citrus fruits, which are a great source of vitamin C, scurvy could be largely curtailed, with him publishing his results in his *Treatise of the Scurvy* in 1753. Disappointingly it took around 40 years passing before lemon juice supplies were made mandatory on ships in the British Navy.

Scurvy was a major problem for sailors

Robert Koch

Sir Alexander Fleming

Willem J. Kolff

- **Medical pioneer** Elizabeth Blackwell becomes the first woman to gain a medical degree, studying in America, and is also the first woman on the UK Medical Register **1849CE**
- **Germ theory explained** Robert Koch and Louis Pasteur establish the germ theory of disease for the first time in history. **1870CE**
- **Penicillin discovered** Scottish scientist Sir Alexander Fleming discovers penicillin by accident from a discarded Petri dish. **1928CE**
- **Measles combated** The first vaccine for measles goes on sale in the US and later around the world. **1963CE**
- **Life-saving vaccine** The world's first vaccine for hepatitis B, a disease that has caused epidemics, is developed. **1981CE**
- **Dialysis pushed** Willem J. Kolff, a Dutch scientist, undertakes ground-breaking work into artificial organs and the practise of dialysis **1985CE**
- **Organs are 3D-printed** Artificial organs – including heart valves – begin to be produced by 3D printing methods. **2012CE**

1860 | 1880 | 1900 | 1920 | 1940 | 1960 | 1980 | 2000 | 2013

- **Rabies treated** Louis Pasteur produces the world's first vaccine for rabies **1882CE**
- **Pain relief** Felix Hoffmann, a German chemist, becomes the first scientist to synthesise medically useful forms of heroin and aspirin. **1897CE**
- **Beat again** Canadian inventor and titular Father of Biomedical Engineering John Hopps develops the world's first cardiac pacemaker **1950CE**
- **Rickets rounded-on** Edward Mellanby discovers that it is a lack of vitamin D in the diet that causes rickets. **1921CE**
- **CAT-Scans** Robert S. Ledley, a professor of biophysics and radiology, invents computerised tomography scanning. **1974CE**
- **HIV discovered** The virus that can lead to AIDS is identified for the first time **1983CE**
- **Dolly clone** Dolly the sheep becomes the first animal to be successfully cloned by human science. **1996CE**

Louis Pasteur

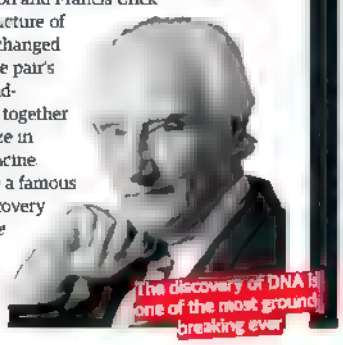
Robert S. Ledley

Dolly the sheep

DNA discovered

AMERICA 1953

When James Watson and Francis Crick discovered the structure of DNA in 1953 they changed science forever. The pair's work was so ground-breaking that they together won the Nobel Prize in Physiology or Medicine. Watson later wrote a famous account of the discovery entitled *The Double Helix* and was also appointed head of the Human Genome Project.

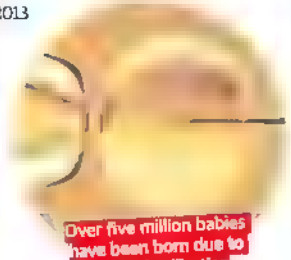


The discovery of DNA is one of the most ground-breaking ever

Fertility boosted

ENGLAND 1978

First developed by British scientists Patrick Steptoe and Robert Edwards in the Seventies, the process of in vitro fertilisation has transformed the ability of people with low fertility levels to reproduce. As of 2013 over five million babies have been born via in vitro, but this movement didn't start until the first test-tube baby was born under the scientists' care in 1978

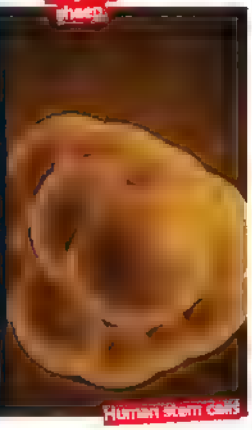


Over five million babies have been born due to in vitro fertilisation

Stem cell science

AMERICA 2007

The discovery of stem cells – undifferentiated biological cells that can differentiate into specialised cells and divide through mitosis to produce more – was a massive discovery for human science and one that has many exciting potential applications. This discovery was added to when scientists found that they could use human skin cells to actually create embryonic stem cells, thereby generating a faster and more viable way to produce them en-mass.



Human stem cells

© Alamy, Thinkstock

Hall of fame

10 PIONEERS OF MEDICINE

Meet those whose inventions, bravery and ingenuity have saved millions

MARIE CURIE

POLISH 1867-1934

Marie Curie researched the theory of radioactivity, which was vital in the development of x-ray equipment. During World War I she drove ambulances to the front line equipped with portable x-ray devices. The Red Cross then made her director of its radiological services and she helped train other medical professionals in the use of the new machines. She won two Nobel Prizes – one for her pioneering research in chemistry, the other for her work in physics.

Marie Curie's research was vital in the development of life-saving x-ray machines

Jenner's theories on inoculation saved millions from smallpox

Edward Jenner

ENGLISH 1749-1823

Known as the 'father of immunology', Edward Jenner has a well-deserved entry into the medicine hall of fame. Not only did he develop the scientific method of immunology, he also discovered the smallpox vaccine by observing that milk maids in England rarely contracted the disease. He realised this was because they had contracted the less-deadly cow pox and as a result had developed natural immunity to smallpox. He experimented with this hypothesis, scraping puss off a cow pox blister and introducing it to an open wound on a boy's arm, inoculating him. Smallpox now no longer exists outside of lab conditions.

Magdi Yacoub

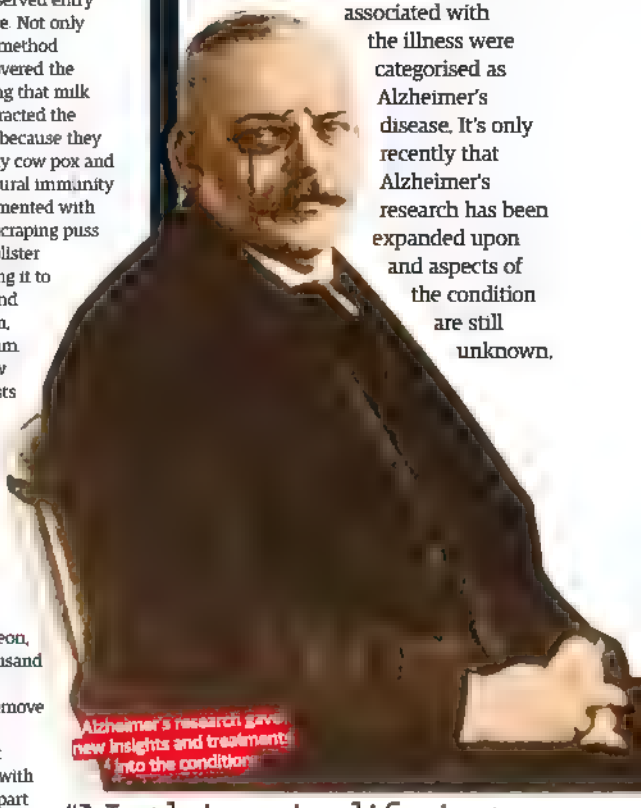
EGYPTIAN 1935-PRESENT

Magdi Yacoub is the world's leading heart-transplant surgeon, having performed over a thousand such procedures. As well as pioneering key methods to remove the organ during surgery, he was the first to conduct heart transplants in the UK. Along with his team of doctors, he grew part of a human heart valve from stem cells, paving the way for increased availability of human organs. He believes in the right to medical care for all and is a key founder of the Chain of Hope charity, which delivers cardiothoracic surgical care to developing countries.

ALOIS ALZHEIMER

GERMAN 1864-1915

Alois Alzheimer first discovered the mental disorder that now bears his name in 1906, when he was director of the Frankfurt clinic for mental illness. He noticed that one of the admitted patients was suffering from short-term memory loss, hallucinations and the loss of her higher mental functions. After she died, her body was autopsied and Alzheimer noticed a thinning of the cerebral cortex and changes in the nerve cells. After further research on similar cases, the problems associated with the illness were categorised as Alzheimer's disease. It's only recently that Alzheimer's research has been expanded upon and aspects of the condition are still unknown.



Alzheimer's research gave new insights and treatments into the condition

"Nothing in life is to be feared, it is only to be understood"

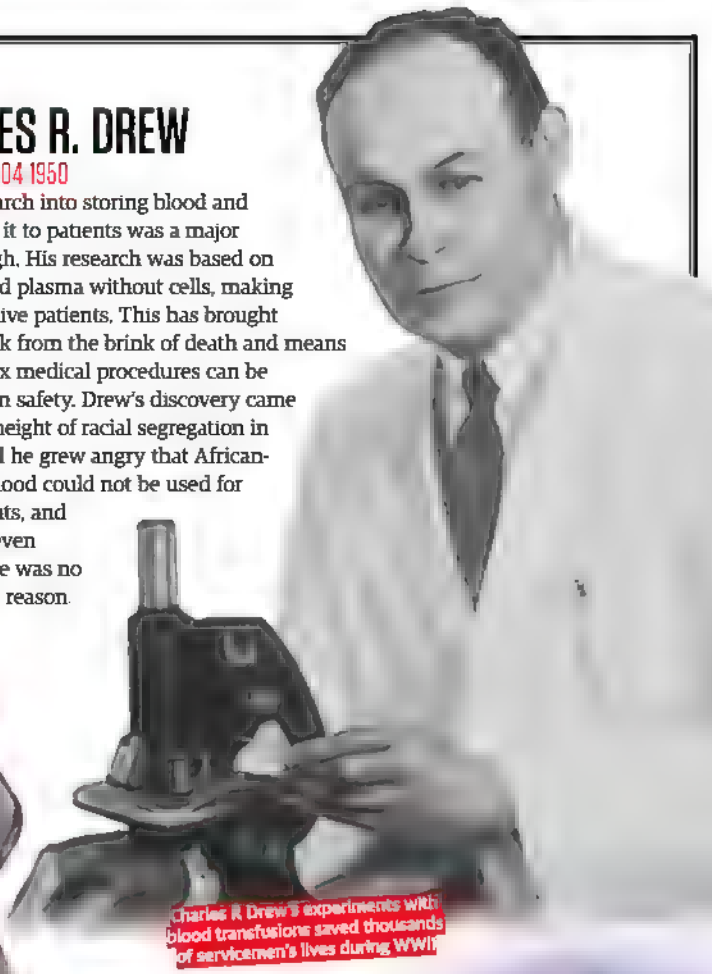
Marie Curie

Henry Gray
ENGLISH 1827 1861

Gray's Anatomy is seen as a standard text for any first-year medical student. Henry Gray wrote the encyclopedic guide to medical science in 1858, drawing the illustrations himself using bones and other material preserved from corpses as a guide. It was for this reason that the *Anatomy* was far more accurate than anything else that was available at the time. He also wrote a number of other essays, including the distribution of nerves in the eyes of animals. The amount of time he took painstakingly dissecting every part of the specimen to uncover its true nature was legendary. He tragically died at the age of 34 after contracting smallpox from his nephew.

CHARLES R. DREW
AMERICAN 1904 1950

Drew's research into storing blood and transferring it to patients was a major breakthrough. His research was based on storing blood plasma without cells, making it ready for live patients. This has brought patients back from the brink of death and means that complex medical procedures can be performed in safety. Drew's discovery came during the height of racial segregation in the USA and he grew angry that African-American blood could not be used for white patients, and vice versa, even though there was no medical reason.



Charles R Drew's experiments with blood transfusions saved thousands of servicemen's lives during WWII

Avicenna
PERSIAN 980 1037CE

Widely regarded as one of the first medical practitioners, Avicenna combined philosophical teachings with medical knowledge. The *Canon of Medicine* that he wrote and compiled was translated into Latin and found its way into the libraries of Europe, informing students of medicine thousands of miles from his homeland of Persia. The *Canon* commented on the need for quarantine of infectious people and mentioned bad odours in the air and their risk to normal bodily functions. While most of the advice within the *Canon* has now been debunked by modern medical science, the strides Avicenna made in turning medicine from a mystical art to a regulated practise were huge for the time period.

Avicenna wrote about quarantine and the effects of bad odours on health

Carl Wood
AUSTRALIAN 1929 2011

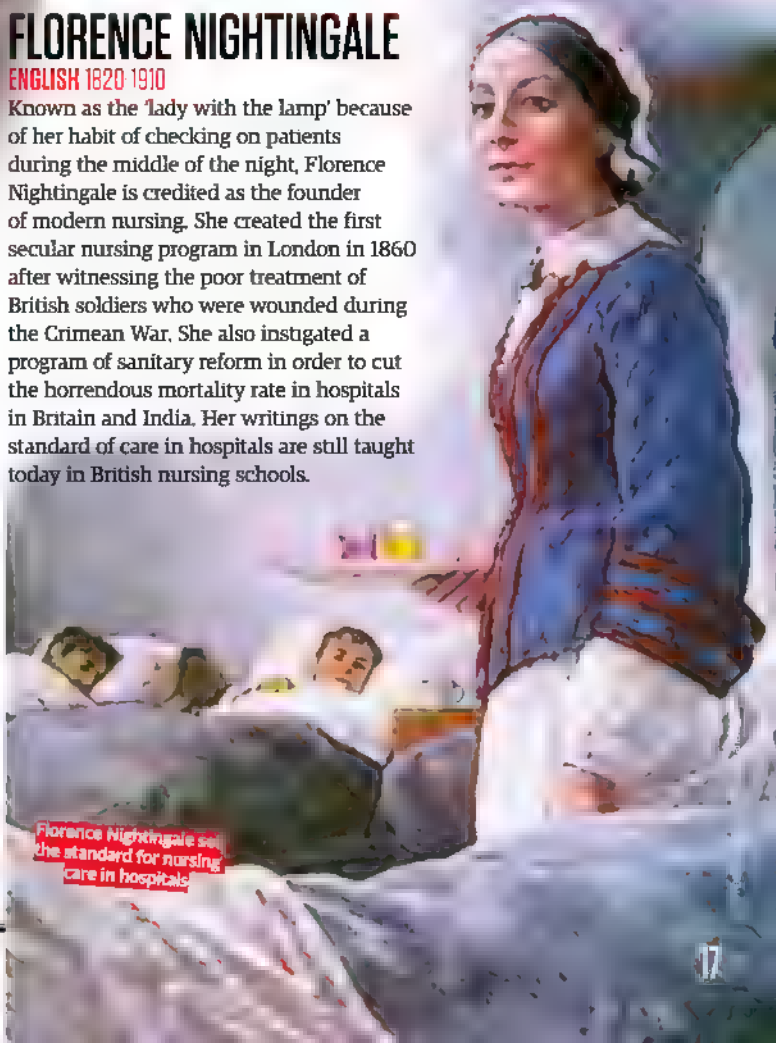
Carl Wood gave millions of women the hope of pregnancy, through his research into successful viable IVF treatment. He produced the first in-virtro fertilised egg, which was transplanted back into the mother. It was a momentous achievement and with further research he produced Australia's first test-tube baby in 1980. He experimented with freezing embryos so that they could be stored, steering the way for commercial IVF treatments that could be made available to everyone. While his treatments would draw controversy from critics who argued that he was playing God, his revolutionary methods meant that millions of couples were given the chance to have a family.

Antonio Egas Moniz
PORTUGUESE 1874 1955

Antonio Egas Moniz's expertise in neurology is as renowned as it is controversial. His work in studying the brain and the behaviours that stem from the frontal lobe has been highly significant in terms of its depth, but he also holds the ominous reputation as being the inventor of the modern lobotomy - a surgical procedure that has been condemned by medical professionals and laymen alike. During the Forties, the process of removing parts of the brain to stop psychotic mood swings was considered to be a cure for mental health disorders, winning Moniz the 1949 Nobel Prize for 'his discovery of the therapeutic value of [lobotomy] in certain psychoses'

FLORENCE NIGHTINGALE
ENGLISH 1820 1910

Known as the 'lady with the lamp' because of her habit of checking on patients during the middle of the night, Florence Nightingale is credited as the founder of modern nursing. She created the first secular nursing program in London in 1860 after witnessing the poor treatment of British soldiers who were wounded during the Crimean War. She also instigated a program of sanitary reform in order to cut the horrendous mortality rate in hospitals in Britain and India. Her writings on the standard of care in hospitals are still taught today in British nursing schools.



Florence Nightingale set the standard for nursing care in hospitals

Day in the life

AN APOTHECARY

MIXING POTIONS AND TREATING CUSTOMERS WITH AN APOTHECARY
LONDON, CIRCA 1485-1714

In the smoky alleyways of towns and villages across England, exotic smells and strange sights could be found in the rooms of the apothecary's shop. It was a place where commoner and nobleman alike could get advice on specific ailments, with apothecary apprentices mixing strange ingredients into huge cauldrons.

The apothecaries were sought after by the rich and powerful and every king and queen during this period had a master apothecary known as the serjeant of the confectionery. While this position heralded great rewards, the work of an apothecary was often far from glamorous and often courted great risk.

1 STAR-GAZING

A master apothecary would always rise early in order to gaze at the stars and ascertain how they might affect the illnesses he would be treating during the course of the day. Star alignment was said to affect the nature and seriousness of illnesses, so noting down positions of specific stars was vital to a patient's health.

2 CONCOCTING

Morning tasks were taken up with the concoction of medications at the apothecary's shop and orders often came from noblemen who had the misfortune of catching venereal disease. While this illness could be cured by an unpleasant procedure involving a tube going through a sensitive area, courtesy of a barber-surgeon, many gentlemen opted for medication. The apothecary mixes garden snails, earworms, ground ivy and aniseed together into a thick paste and orders an apprentice to take it over to the nobleman's lodgings.

3 APPOINTMENTS

A royal messenger appears and claims that the apothecary must attend upon his majesty immediately. As a yeoman apothecary to the royal household, he is often asked to help his majesty with specific problems. While dealing with the monarch was often a terrifying experience, the monetary rewards often outweighed the abuse.

Garden snails were just one of the ingredients used to alleviate STIs

"Orders often came from noblemen who had the misfortune of catching venereal disease"

How do we know this?

The story of royal apothecaries has been recounted in a number of general texts that deal with the Tudor and Stuart periods. The physical health of the monarchs of this period, especially Henry VIII and Elizabeth I, who both survived into old age, has long been a subject of fascination for historians. The important role apothecaries and physicians played during the 16th and 17th centuries offers a fascinating insight into how the Tudor-Stuart mind dealt with illnesses and death. Specific works on Tudor apothecaries can be found on the internet including *Royal Apothecaries of the Tudor Period*, which is available to download for free from the Cambridge University Journals website.

1 ROYAL VISIT

The apothecary approaches the king with apprehension but this time he gets off lightly – his majesty simply wants advice about pain and puss seeping from an old wound and he appears to be in a good mood. The apothecary recommends a poultice to draw out the puss and sweet-smelling rose water to ward off the bad humours that are causing the pain. The four humours were key to Renaissance thinking behind human health and consisted chiefly of black bile, yellow bile, phlegm and blood. The balance and condition of these elements were often used by apothecaries to diagnose illness

2 CUSTOMER CARE

As the apothecary leaves the palace he is quickly collared by one of the royal physicians. His majesty wishes to take his bi-annual bath this afternoon and requires the apothecary to scent it appropriately. The apothecary gulps and prays his majesty's good mood holds, then turns to leave, as he will need to gather the very best ingredients for this task.

3 BUYING INGREDIENTS

The apothecary heads back to the street his shop is on and begins to take rent from his properties. Like many of his fellow practitioners, he uses this income to pay for exotic medicines, many of which come from the Middle East and are incredibly expensive to obtain as a result. His next patient is royalty, so the apothecary puts up with the extortionate prices to get the best very ingredients that money can buy

4 SWEET SCENTS

Back at the palace, the king's leg is causing him considerable pain and he is now in a fearfully bad mood. The apothecary convinces him to bathe in sweet scents, as this may temper the bad humours afflicting his leg. The king reluctantly agrees and slips into a bath containing herbs, musks and an ingredient known as civet, a substance sourced from the secretions of civet cats from Africa.

5 STAFFING

The apothecary finally returns to his shop for the day and immediately is forced to reprimand one of his apprentices. The apprentice was trying to seek employment elsewhere, even though he was already bound to the apothecary. He is now kneeling before the apothecary begging for forgiveness, but is ordered out of the shop by his master – an apothecary could ill-afford disloyal employees. With that bit of unpleasantness over, he turns in for the night.

THE Anatomy of WWII COMBAT MEDIC

A WORLD WAR II HOSPITAL CORPSMAN, THE US NAVY'S ONLY ENLISTED CORPS, 1942-45

M1 CARBINE

HEAL FIRST, SHOOT LATER

Initially corpsmen weren't armed, but as it became increasingly apparent that medics were as liable to become targets as any other soldier, their armoury was upgraded to the M1911 pistol and, eventually, the M1 Carbine. This .30-calibre, semi-automatic rifle was a variant of the M1 rifle that provided the corpsmen with increased firepower without compromising their mobility in the field.

P41 UTILITY JACKET

WATERPROOF, BUT NOT BULLETPROOF

Initially designed as a standard jacket for civilian work, this robust item of clothing was picked up by the Navy and issued as standard to its servicemen. The P41 utility jacket formed part of the corpsman's field uniform, and was made to be hard-wearing, light and breathable in the humid conditions of the south-east Pacific.

NAVY 14-450 MEDICAL POUCHES

A CORPSMAN'S MOBILE SUPPLY KIT

Slung across their shoulders on a harness were a corpsman's medical supplies: dressings, tourniquet, medicines and morphine among other medical paraphernalia required to stabilise and treat wounded soldiers. Hospital corpsmen travelled fairly lightly in comparison to some hospital units.

NO RED CROSS

A CROSSHAIR FOR THE UNSCRUPULOUS ENEMY

Corpsmen rarely wore medical insignia on their helmets when in the field in World War II because the Japanese considered them a legitimate target. The conspicuous red cross on white background made them easy to pick out, especially when encumbered with a stretcher or attending to the wounded.

CANTEEN

YOU CAN LEAD A HORSE TO WATER...

Dehydration would have been a killer in the extreme humidity and heat of the jungle. All servicemen would have carried a canteen of water, but for a hospital corpsman it also served as a kind of medicine for treating dehydrated soldiers or flushing out wounds. Using their water purification tablets, river water could be made safe to drink in canteens too.

FIRST AID KITS

THE PORTABLE TOOL KIT OF THE FIELD MEDIC

A corpsman carried two small canvas bags that contained all the tools required for the job. A standard medical kit contained scissors, safety pins, jack knife, roll wire, pencil and a notebook. The jungle kit would have included more exotic items. The M-2 replaced the M-1 as a smaller and more practical jungle kit containing insect repellent, trench foot solution, water purification tablets and Sulfadiazine (an antibiotic) among other items.

BOLO KNIFE

CHOPS THROUGH BONE AS EASILY AS BRANCHES

This sharp and heavy-bladed knife was of Filipino origin, and was used primarily as a farming instrument. It made short work of vines and thick vegetation, and was readily adopted by marines and corpsmen in the jungles of the far East. It also served as a brutally efficient melee weapon, and Filipino farmers were renowned for their skill with them.

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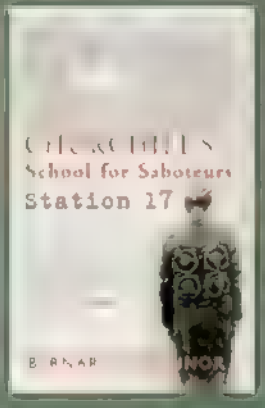

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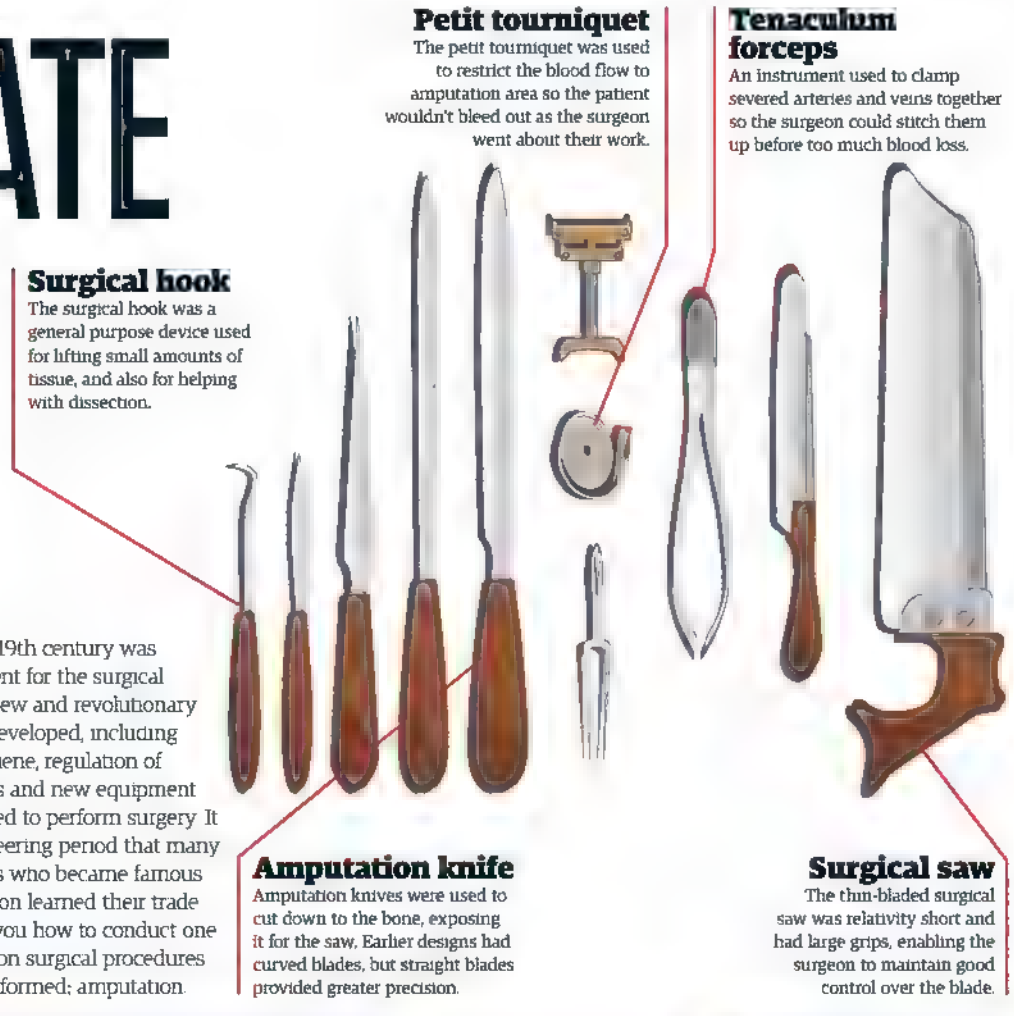
How to AMPUTATE A LEG

BACK ALLEY SURGERY, THE WEST END, LONDON 1849

A SURGEON'S KIT



Surgical hook
The surgical hook was a general purpose device used for lifting small amounts of tissue, and also for helping with dissection.

Petit tourniquet
The petit tourniquet was used to restrict the blood flow to amputation area so the patient wouldn't bleed out as the surgeon went about their work.

Tenaculum forceps
An instrument used to clamp severed arteries and veins together so the surgeon could stitch them up before too much blood loss.

Amputation knife
Amputation knives were used to cut down to the bone, exposing it for the saw. Earlier designs had curved blades, but straight blades provided greater precision.

Surgical saw
The thin-bladed surgical saw was relativity short and had large grips, enabling the surgeon to maintain good control over the blade.

PIONEERING SURGEONS

THEODOR BILLROTH
1829-1894

The father of abdominal surgery, Billroth was the first surgeon to conduct a successful esophagectomy, the removal of part of the gastrointestinal tract.

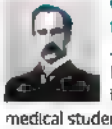
MAX WILMS
1867-1918

The German specialised in the study and removal of tumours. His contributions were instrumental in the diagnosis and treatment of renal cancers.

GEORGE E GOODFELLOW
1855-1910

Widely seen as the best surgeon for gunshot wounds in the Wild West, Goodfellow famously treated the wounds of the Earp brothers at the O.K Corral

WILLIAM OSLER
1849-1919



Osler was one of the founders of John Hopkins Medical School and insisted that medical students observed him while he performed surgery.

The middle of the 19th century was a watershed moment for the surgical profession. Many new and revolutionary ideas were being developed, including the concept of hygiene, regulation of surgical procedures and new equipment specifically designed to perform surgery. It is during this pioneering period that many of the top surgeons who became famous within the profession learned their trade. This guide shows you how to conduct one of the most common surgical procedures these surgeons performed: amputation.

01 Clean your equipment

Anecdotal evidence from other surgeons suggests that filthy equipment increases the mortality rate of amputees. This is highly controversial, as many surgeons do not believe in the idea of 'bacteria'. Since you do, make sure you clean your equipment – especially your cutting knives and saws – before the surgery begins

02 Hold your patient down

The sight of huge knives, saws and crowds of curious medical students standing around observing may make your patient nervous. There have been incidents during amputations where patients have got up and ran out of the operating theatre with half their limb still attached. Instruct your orderlies to firmly hold your patient down

How not to perform an amputation

Dr Robert Liston gained an enduring reputation in London as a surgeon who could complete an amputation procedure in 30 seconds or less during the 1800s. He was considered to be one of the finest surgeons in the country because of the speed he could have the horrifying operation completed in, helping to reduce the trauma the patient endured. However, speed often meant carelessness in the operation of the task. In one now infamous incident, Liston was performing a leg amputation but in his haste to beat his best time, he sawed through the patient's testicles, then accidentally cut through an orderly's hand before finally stabbing a spectator in the stomach, causing him to bleed to death over the operating table. It was said to be the only surgery in history with a 300 per cent mortality rate.

03 Anaesthetics (optional)

Anaesthetics are at the cusp of medical science, but some surgeons dismiss them. If you want to use this medical advance then the patient can be knocked out with ether or chloroform. The use of either of these drugs carries risks, however, including the patient waking up during surgery. If you don't, ensure the patient is securely held down

04 Begin incision

Firmly grip the amputation knife with your writing hand and hold the patient's leg down with your other hand. Cut through the skin and muscle using a slicing action and ignore the screaming – if your patient hasn't passed out through the pain – until you reach the bone. Then pull back the flesh in order to keep the bone exposed.

05 Saw through the bone

If your patient hasn't passed out by now, they soon will. Position the saw between the flesh and begin sawing. Have one of the orderLes stand ready to catch the leg and dispose of it. Top surgeon Dr Robert Liston could complete an amputation in less than 30 seconds – but as you are just starting out, it's probably best that you take your time.

06 Congratulate the patient

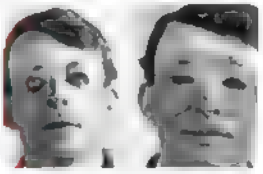
The shock of sawing off bones, the extreme pain and blood loss often meant that the patient never made it off the operating table. Blood loss was a particular killer during this period, since there were no blood transfusions. If your patient survives, then congratulate them. They now have a 60 per cent chance of dying of septicaemia.

5 TYPES OF 19TH CENTURY SURGERIES

COSMETIC

1845

Early forms of cosmetic surgery were developed and refined throughout the 19th century.



HEART

1896

The first ever successful heart surgery was performed in Norway, with surgeons shutting off a bleeding coronary artery

BRAIN

1866

Brain surgery was highly experimental and incredibly dangerous; the patient was not expected to live through it.

STOMACH

1871

The removal of the stomach by surgeon Theodor Billrot was one of the greatest medical breakthroughs of the period.

EXPERIMENTAL

1845-1849

Experimental surgery on humans was not uncommon, with surgeons like J Marion Sims experimenting on live subjects to discover new surgical techniques.

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INSIDE HISTORY

THE FIRST DOCTORS

ANCIENT EGYPTIAN MEDICINE, CIRCA 1550 BCE

01 Washing hands
Egyptian doctors understood that hygiene was vital. However, they mistakenly believed that the water from the Nile was purified.

02 Utensils
Surgical materials were improved and become more precise due to the anatomical knowledge gained from the mummification process.

03 Professionals
Doctors were some of the most well-respected figures in Egyptian society. In their clinical practices they used medical equipment, remedies and prayers to the gods.

04 Assistants
Most doctors would have assistants to keep the patient immobilised and help with equipment. An assistant was also a sign of status.

05 Convalescence
The Egyptians did not know about anaesthesia, so patients would be conscious when operated on and treated. However, they did use different types of painkillers and drugs which helped to numb the patients' pain.

During the ancient Egyptian civilisation, the first of who from a modern perspective we would call doctors emerged. Imhotep is considered by many to be the first great doctor, and during the time period of 260 BCE the doctor, architect and priest diagnosed over 200 ailments and prescribed medical treatment for them all. Such was his influence that after he died he was worshipped as a god of healing.

That he was also a priest wasn't unusual as for the Egyptians – a god-fearing people with many different deities – treatment such as painkillers and cleaning a wound went hand in hand with asking higher powers for help. It was not uncommon for a witch doctor to accompany a doctor on their rounds, making the required spells aimed at making the treatment more effective. Despite this strong focus on the supernatural, ancient Egyptian doctors also made very important discoveries about how the human body worked, and they knew that the heart, pulse rates, blood and air were important to the workings of the human body and that a weak heartbeat meant that the patient had serious problems.

Ancient papyrus has also been found that makes specific reference to organs such as the spleen, lungs and the heart, which shows that fact, there was a high degree of specialisation among Egyptian physicians, with some treating only the head or the stomach, while

How do we know this?

Lots of information has come from first-hand sources, such as ancient papyrus, that have been discovered – the dry atmosphere of the country helping to preserve these – which provide lots of information about ancient Egyptian medical knowledge and practice. Archaeological digs have also found evidence of men titled as physicians, and hieroglyphics in tombs have made mention of Egyptian doctors.

07 Witch doctor

Despite having a good understanding of the human body, Egyptian doctors also believed in the power of the spirits to heal. A witch doctor would make the necessary magic spells to make the treatment more effective and increase the chances of success.

06 Pharmacopoeia

Remedies with medicinal properties were recorded in papyrus that included instructions on their preparation. It is through such material that much medical information from this period is still available.

01 He believed in scientific reason

Before Hippocrates, illness was ascribed to divine reasons like the will of the gods. The Greek physician was among the first to look for natural causes, and used scientific reason and deduction to prescribe remedies like improved diet, sleep and better hygiene.

Top 5 facts
HIPPOCRATES

THE 'FATHER OF MEDICINE', HIGHLY INFLUENTIAL PHYSICIAN
GREEK, 460 BCE – 377 BCE

02 He was imprisoned for his beliefs

Many of those that governed Greece and held power opposed his theories on medicine as blasphemous, as they disregarded the influence of gods and superstition. As a result he endured a 20-year prison sentence, but while he was locked up wrote the influential medical book, *The Complicated Body*.

03 Founder of a medical college

On his home island of Kos he founded the Hippocratic School of medicine, which produced the Hippocratic Corpus, a collection of over 60 works. This institution revolutionised medicine in ancient Greece as the Cnidian School – which treated the body as separate parts that weren't interconnected – had previously been the most eminent.

04 He was an innovator

Hippocrates was an innovator who performed the first ever documented chest surgery and, while the degree of sophistication has increased, modern surgery works on the same principles he used. He also described clubbed fingers as a significant diagnostic sign of chronic suppurative lung disease, lung cancer and cyanotic heart disease.

05 His work continues to influence

To this day, new doctors around the world swear a Hippocratic oath. This specifies the ethical standards that new physicians will abide by, and includes the line: "If I keep this oath faithfully, may I enjoy my life and practise my art, respected by all humanity and in all times; but if I swerve from it or violate it, may the reverse be my life."

HIPPOCRATES
GREEK, 460-377 BCE

Brief Bio

Born in 460 BCE on the island of Kos, Hippocrates looked at medicine and the human body in new and radical ways. He believed the body was connected and using the theory of the four humours, looked for scientific and rational reasons for illness. By the time of his death, he had established the age's most eminent school of medicine.

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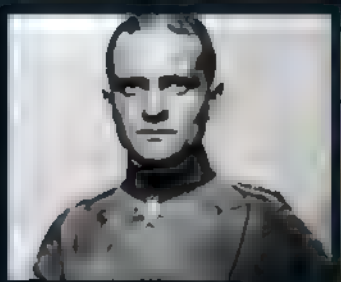

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The Soviets had won the space race?

THE SPACE RACE – SOVIET UNION VS THE USA, 1957 - 1969

Written by Jonathan O'Callaghan

DR CHRISTOPHER RILEY
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What if the Soviets had won the space race?
I think they would have perhaps established some kind of permanent lunar base in the way they colonised Earth orbit [in the Seventies and Eighties]. It might have been that they continued to run with a presence on the Moon instead of just sort of going there for a few days and coming back and then never returning, as essentially what has happened now However, you've got to imprint upon the effect that the break up of the Soviet Union had on the space programme. That really caused a massive underinvestment, which might have ultimately led to any lunar base being abandoned – and we'd be back where we are today

Did the successful launch of the Soviet Union's Sputnik 1 in 1957, the first man-made satellite in space, inspire America to reach for the Moon?
Oh yes, undoubtedly. The 'Sputnik effect', as it's called, was a significant player in ensuring that Apollo succeeded. President Eisenhower commissioned the Saturn V rocket and he boosted brainpower by investing in universities I think Apollo made America smarter for that period – and the legacy of that was, of course, not just to win the Moon race but the spin-offs that happened. Not least the micro-computing processing revolution and ultimately the Internet, of which the early DARPA [Defense Advanced Research Projects Agency] structures were the forerunner, as they were all wrapped up in the Cold War investments the government had made. We've got our modern society to be thankful for because of that initiative, that 'Sputnik effect'. We're still living off that. It was profound, what Eisenhower did

When was the moment that the United States took the lead in the space race?
The Zonds [Soviet spacecraft] were racing around the Moon unmanned in 1968, so I think you have to point to Apollo 8 [in December 1968], which was this very audacious and perhaps even somewhat reckless mission to pull off. Apollo 8 was previously just an Earth orbit mission, but they instead went straight [around] the Moon on the first Saturn V launch, which was a very, very brave thing to do. Ultimately that bravery that gamble that they somehow managed to pull off, was the turning point without a doubt

Was there any other major turning point that happened during the space race?
The N1 disaster [the Soviet Moon rocket that failed five times] was obviously a colossal setback. But it wasn't just about booster technology; the Russians easily matched the Saturn V they were ahead in booster lift for many years. But the clincher was the computing power, that is where the Russians were really falling short.

How far behind were the Russians in terms of their computing power?
While the Russians might have been able to orbit the Moon, it was a far cry from landing on it. The thing that really clinched the success of Apollo, in no uncertain terms, was their computing power. The fact that NASA had invested significant amounts of money in the manufacturing of integrated circuits in order to create the micro-computers that were light and small enough to be able to fly on these [Apollo] spacecraft, and make these precise landings on the Moon. The Russians, as far as I'm aware, didn't really have that sort of micro-processing capability in those days. Their systems probably wouldn't have allowed them to really make a successful landing. It wasn't impossible, but it was quite unlikely

Did the Soviets realise this?
I think they were just sort of gambling on the judgement of their pilots and hoping they could pull it off without this computing power. The Russian approach to spaceflight in the Sixties, both robotic and human, was a little bit of fingers firmly crossed behind your back as they launched. Everybody needed an element of luck, luck goes hand in hand with skill.

“They would have perhaps established some kind of permanent lunar ba[illegible]”

With better computer power the Soviets could have won the space race and put a man on the moon

THE SOVIETS HAD WON THE SPACE RACE?

Soviet success in the space race could have spurred America into further space exploration and led to man walking on Mars

and engineering when it comes to spaceflight, of course. But the Russians relied on luck a bit more, and the reason I say that is because they essentially ran for all these very quick firsts in human spaceflight in the Sixties. For example, they were the first to put three people in a capsule, and they only did that by depriving them of their pressure suits so they could squeeze them into a two-man capsule. Things like that were clearly a bit reckless with the way they went forward. While they probably were aware that their computing power was inferior to the Americans, I think they just thought they'd wing it and their pilots would hopefully be able to pull [a lunar landing] off just manually.

If they had landed first, how would it have changed the Soviet Union as a whole?

Well you've got to look at how they reacted to Gagarin returning [in April 1961] and Valentina Tereshkova [the first woman in space in June 1963] and the other heroes of spaceflight that placed Russia so high on the world stage. I think a successful returning lunar cosmonaut would have been celebrated and lauded around the world in exactly the same way. If you look at the 'Giant Step' tour that the crew of Apollo 11 went on in the summer of 1969 when they got back, 40 countries in 30 days or something like that, touring the world with millions of people coming out on the street and giving these ticker tape parades wherever they went, you can imagine that absolutely would have happened to the Russians as well. Whether it would have had a material change on the course of Russian history and how their society changed in the Eighties and Nineties, I don't know. It would have been great when it happened in the Sixties, but perhaps it wouldn't have made a big difference in the grand scheme of things.

Which Soviet cosmonaut do you think might have taken the first steps on the Moon?

Alexei Leonov's name often comes up as the first Moon walker, having done the first spacewalk [in March 1965] and contended with those difficulties and survived the mission. I think he likes to think he would have been as well from his writings and interviews since – and I dare say he's right.

Would they still have proclaimed the Moon 'for all mankind' as the Americans did?

If you listen to Khrushchev's speeches at the time, they were all about how Gagarin's flight was for everybody. The whole point was it was a gift to the world and it was Russia's great gift to human history, so they would have, I'm sure, done the same thing [on the Moon]. Whether they'd have taken a UN flag, which was proposed initially for the Americans to fly rather than the stars and stripes, or whether they'd have planted their own hammer and sickle I don't know. I suspect they would have planted their own flag, but their speeches and plaques that they unveiled I'm sure would have had the same sentiments [as Gagarin's flight].

How would it be different?

Real timeline

1957

First artificial satellite in space
To the shock of the United States and the wider world, the Soviet Union successfully launches an unmanned satellite, known as Sputnik 1, into space.
4 October 1957

Eisenhower boosts brainpower
In a bid to prevent the US from falling behind the Soviet Union President Eisenhower introduces the National Defense Education Act (NDEA) to increase education funding.
2 September 1958

Explorer 1
America strikes back at the Soviet Union with its own artificial satellite, Explorer 1. This satellite then discovered the Van Allen radiation belts that surround Earth.
31 January 1958

First human in space
The Soviets get another first, this time sending the first human into space, Yuri Gagarin, just weeks before the US launches their own Alan Shepard.
12 April 1961

Saturn V launches
NASA's huge Saturn V rocket that will be used for the Apollo missions passes its first test flight with flying colours.
9 November 1967

Apollo 8
NASA must make a decision whether to send Apollo 8 on a manned or an unmanned flight around the Moon.
1968

Manned Apollo 8 launches
The three-man crew of Apollo 8 successfully launches and orbits the Moon, paving the way for a manned lunar landing.
21 December 1968

Alternate timeline

Unmanned Apollo 8 launches
The US launch Apollo 8 as an unmanned mission, delaying any eventual manned lunar landing, and allowing the Soviets to catch up.
21 December 1968

What might their first words on the Moon have been?
Well, [Neil] Armstrong was given complete freedom, as were all of the previous crews of Apollo 8. They decided what they would read or speak, and no one intervened. In fact, while Armstrong had obviously given it a lot of thought, he had a number of options from what his mother told me last year and he made his final decision as to what was going to be said when he was going down the ladder. I think with the Russians, knowing a bit about how their society worked at the time, it would have been very carefully written. There's a speech that Gagarin makes before he climbs in the rocket [on the first spaceflight in April 1961] and it's beautifully and poetically sculpted in terms of its message to the world, and it was completely written for him by the central government. I think it would have been a similar sort of speech that would have been written for the first lunar cosmonaut.

Do you think a successful lunar landing would have prevented the collapse of the Soviet Union?
No, I don't. If you look at what it did to America, they won this race and very quickly the country got sick of spending money, and within a few missions after Apollo 11 the programme was cancelled. The political direction afterwards, both in positive and negative terms, was not really influenced by the success of Apollo, perhaps sadly. So I suspect in Russia it would have been exactly the same. They would have had this time that they carried on running their bases, maybe on the Moon as we've talked about, certainly building a space station in Earth orbit, until effectively politics and perhaps society and the rest of the world overwhelmed them.

Would the USA have tried to one-up the Soviet Union by attempting to go to Mars?
It's nice to imagine that the race could have hurdled us down the Solar System to further away, and there's some sort of validity in that the Cold War had continued to sabre-rattle its way into the Nineties. Would America have gone even further to prove a point? It's possible. Remember Spiro Agnew, the vice president at the time Apollo 11 left for the Moon, said they were going to be on Mars by 1980! So there were plenty of plans; [American rocket scientist] von Braun's bottom draw had loads of concepts in it for adapting and modifying Apollo

> "It's nice to imagine that the race could have hurdled us down the Solar System further away"

configurations to send them further. It's a lovely thought to imagine that with Apollo hardware, you could have actually had a human footprint on Mars by now.

Would they have succeeded?
I don't know. I mean, it took four million human years to put those 12 Americans on the Moon – the work of 400,000 people for a decade. I think you could have multiplied that by 100, maybe 1,000, to land on Mars. It would have been very difficult to do, and it still remains so.

How would modern space exploration be different if the Soviets had been first on the Moon?
If – and this is an enormous if, and not one I think likely – the Russians had got to the Moon first and the Americans had gone to Mars, we would have skipped the space station stage as it were. The [International Space Station] was largely conceived and built to justify the Space Shuttle, so we probably wouldn't have gone down that route. We would have just been pushing the frontier of human footprints across the Solar System. I think if we'd gone as far as then changing this mindset from racing to collaborating as a community we'd again be looking at a sort of equivalent to the space station – a laboratory but somewhere on the Moon or Mars instead, rather than in Earth orbit. It would have ultimately been a completely different picture from the years of shuttle flights and space stations that we've lived through instead.

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The Soviets fall behind
The Soviet Union's answer to the Saturn V, the N1 rocket, explodes on its first launch and fails a further three times by 1972.
21 February 1969

A giant leap for mankind
Neil Armstrong and Buzz Aldrin become the first humans to set foot on the Moon on the Apollo 11 mission, winning the space race for the US. Five more occur by 1972.
20 July 1969

Space stations
By the Eighties both the United States and Soviet Union (later Russia) have focused much of their efforts on space stations and missions to Earth orbit.
1980

International Space Station
The US, Russia and other nations continue to collaborate and operate the International Space Station in Earth orbit, but no humans have ventured further since 1972.
2013

Soviets aim for the Moon
Buoyed by the stagnation in the American lunar programme, the Soviets ramp up their efforts to send humans to the Moon, culminating in a successful test of their N1 rocket.
1969

Soviet Landing
While the US debates the future of Apollo, the Soviets stun the world again by sending a single cosmonaut, Alexei Leonov, on a daring mission to the lunar surface, from which he returns a hero.
July 1969

America shoots for Mars
Still reeling from the Soviet space race victory, America attempts to one-up the Soviets, announcing their intentions to land humans on Mars. They ultimately succeed in doing this in 1980.
1970

Space colonisation
After four decades of exploration – and thanks to the collapse of the Soviet Union – the US, Russia and other nations collaborate on human exploration endeavours throughout the Solar System.
2013

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Technology

Alexandria became the centre of advanced learning during this period and, as a result, many scholars and philosophers travelled to the city to develop theories. Hipparchus studied in Alexandria's observatory and proposed theories on distances between the Earth, Moon and Sun.

The Astronomer Hipparchus in Alexandria

Education

Alexandria boasted a library the likes of which the ancient world had never seen. Its students, however, were only able to study in Greek. Since Alexandria had large Egyptian and Jewish populations, this often limited access to higher learning to the Greek population.

The library contained scrolls from across the world

Religion

Religion was of paramount importance for the Alexandrians. Ptolemy combined the gods and goddesses of Greece with their Egyptian counterparts, creating new cults and temples of worship. The god of the dead, Osiris, became the more Greek-looking Serapis.

Hellenic soldiers with their iconic shields and spears

The art and architecture of Alexandria was unique in its mix of Greek and Egyptian styles

Government

Alexandria was ruled by the Greek King Ptolemy II who, adopting the customs of Egypt, made himself Pharaoh and dressed in Egyptian styles. Egyptians had to worship him as a god but the Greeks were given a higher status and not subject to his absolute rule.

Military

Alexandria's rulers had to muster their own forces from the populace to defend the city. The army was based around the model of Alexander, with armoured spearmen forming a phalanx. These men were usually Greek rather than Egyptian.

Pharaoh King Ptolemy II

The Greek god Serapis and the Egyptian Osiris were both worshipped in Alexandria

The great fleets of trade, with the Pharos lighthouse safely guiding them into Alexandria

What was it like?
ALEXANDRIA 250 BCE

Industry
Trade of material and grain exchanges around the city port helped build Alexandria into one of the world's most important ports. Alexandria represented one of the main gateways to vast supplies of food in the Nile delta that could be exported abroad.

Art
The art of the city reflected the taste of the Greek invader, but the city catered for different minorities, including the Egyptians. The city was full of Greek-style busts, but within the interiors of official residences hieroglyphics of the Pharaohs could be found.

What was it like?
ALEXANDRIA, 250 BCE

Experience the vibrant pace and diverse culture of the ancient world's most prosperous city, where many different cultures coexisted

Cosmopolitan, free and prosperous, the ancient city of Alexandria combined the culture and society of two great civilisations – the ancient Greeks and Egyptians.

The city bears the namesake of its founder, Alexander the Great, who conquered the Nile delta in 332 BCE and founded Alexandria on the location of a small Egyptian town called Rhacotis. As the city became part of the extended Greek empire, Alexander personally approved its development and transformation into a great metropolis of culture and learning. Its streets were designed to reflect this reforming zeal with its wide boulevards and Corinthian order columns surrounding a series of temples and vast meeting places.

Egyptian and Jewish influences remained, creating a unique and diverse port that quickly became the centre of the ancient world through its trading power and intellectual institutions. By the time Ptolemy II ruled the city, Alexandria was the biggest metropolis in the ancient world, its sprawling suburbs and great thoroughfares surpassing Carthage and Rome in their grandness. As empires came and went, Alexandria remained as a golden gateway to the rich and abundant lands of the Nile and as an independent city until the fall of Cleopatra in 30 BCE.

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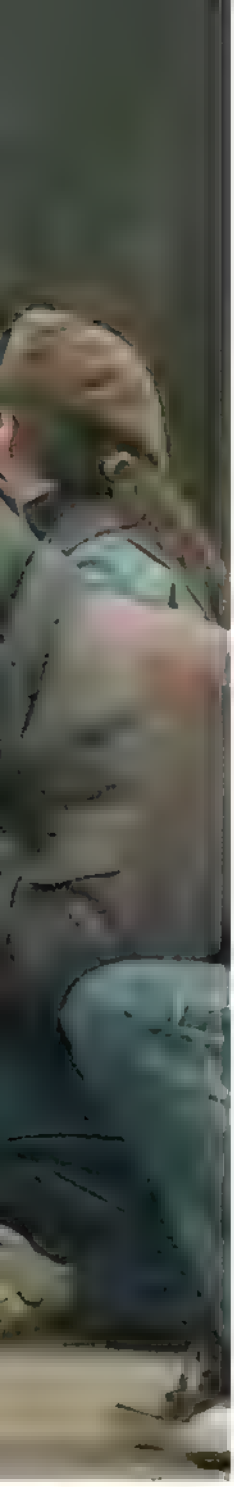
Bell with European Community negotiator Col Colm Doyle in Lukavica Barracks, 1992

Eye Witness

BOSNIAN WAR, BOSNIA-HERZEGOVINA, 1992-1995

Written by Adam Millward



Bell and cameraman Sebastian Rich in central Bosnia

MARTIN BELL

With over 50 years experience of news journalism Martin Bell started out with the BBC in 1962. He has reported on 18 different world conflicts and won the Royal Television Society Reporter of the Year twice – the second time for his work in the Bosnian War from 1992-95, which he claims is "the most dangerous" he has covered. He is now a UNICEF ambassador.

> "The Bosnian-Muslims were not planned, they were not prepared and they did not have the means to defend themselves"

Martin Bell was certain he was right. "I think this is it," he told his foreign editor on 5 April 1992. Coming from a war reporter of Bell's pedigree, that was all the convincing the editor required. Things were about to get very serious.

A peace demonstration had come under sniper fire in Sarajevo, leaving two women dead. Bell was in Berlin at the time but within 24 hours he'd flown to Belgrade, the Serbian capital, and made his way to the Bosnian border town of Zvornik. "We filmed some very nervous Muslims who were expecting the attack, took it back to Belgrade and filed it. The next morning we managed to drive through to Sarajevo. The conflict was fairly slow to ignite, so apart from negotiating a few roadblocks we got there without too much difficulty."

War broke out all over Bosnia simultaneously in what had been the most mixed and multi-faith republic in the old Yugoslavia, indeed, according to Bell, "It was not unusual in a mixed community for someone to be killed by the best man at his wedding." But while the peace demonstration shootings had ushered in the start of the Siege of Sarajevo (the longest siege in modern history), it was the eastern provinces that saw the first blood spilt. It was here in the Drina Valley that the line – both moral and geographic – was crossed, from civil war to genocide.

"In the first ten or so days of the war, the front lines were being established. Territory was fought for street by street. The general pattern was, when there was a divided community, the Serbs had planned in advance. They controlled most of the arms depots and had seized many places which before had been mixed. Zvornik was just one; Foca was another and there were many others. Serbs, who had about 32 per cent of the population, seized something like 50 per cent of the territory."

It was this blatant premeditation that shocked Bell the most, as he explains: "The Bosniaks [Bosnian-Muslims] hadn't seen it coming. They were not planned, they were not prepared and they did not have the means to defend themselves. There was no resistance at all. We now know that [Bosnian-Serb leader] Radovan Karadzic made a speech to his parliament, [revealing how they] used existing structures of the Yugoslav Defence Force to seize many municipalities. What I hadn't realised was how pre-planned it was. They were taking over some municipalities, like Zvornik, where they were actually a minority [38 per cent Serb versus 59 per cent Bosniak, according to the 1991 census], because they needed the river crossing."

At this early stage of the Bosnian War, reporters like Bell found they were welcomed with open arms by the locals – on both sides of the battle lines. "There was no hostility to foreign journalists, but they all wanted to make their case. Initially we stayed in a hotel in Ilidza – at that time a Serbian-held suburb of Sarajevo – and they were very anxious to impress on us the righteousness of their cause," recalls Bell. "There's one man I remember

Outbreak of the Bosnian War

CST

1 April

- **Largely overlooked by the world press at the time, the Bosnian Genocide begins in the border city of Bijeljina**

5 April

- **Making the call**
  Bell telephones his foreign editor to tell him the situation in Bosnia is about to get serious

6 April

08-00am
- **Bell flies to Belgrade, Serbia, from where he and his team make their way to the border region of Zvornik**

11-00am
- **Arrival in Zvornik**
  Bell meets worried Muslims in Zvornik with the threat of attack imminent. He returns to Belgrade to file the report

- **The Serbian Republic declares its independence from Bosnia-Herzegovina**

8 April

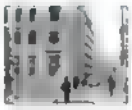
09-00am
- **Drives from Belgrade to Sarajevo with little difficulty. Petrol stations are still open at this point**

01-00pm
- **Sets up base in Hotel Serbia in a Serb-held part of Sarajevo**

03-00pm
- **Serbian troops begin to attack the outer districts of Zvornik**

9 April

00-00am
- **Siege warfare**
  Bell reports events as the city divides down Muslim and Serbian lines



10 April

09-00am
- **Serbian paramilitary forces take most of Zvornik and proceed to evacuate all Muslims, as well as killing several hundred**

02-00pm
- **Bell and his crew are stopped at a roadblock 8km (5mi) from Zvornik, but eventually are permitted to pass**

02-30pm
- **Mass exodus**
  A policeman leads them up a sideroad to a valley where thousands of Bosniaks are fleeing with all of their possessions

08-00pm
- **Bell's report of the Zvornik takeover and its refugees is broadcast in the UK. It is some of the earliest footage to capture the results of ethnic cleansing**

Central Bosnia ablaze

in particular called Drazenko Djukanovic – a [Bosnian-Serb] journalist who would later become a front-line commander. It was a very tense period, because there were no fixed lines.

"On 9 April, I had to ask myself, 'What the hell am I going to do?' We started off going towards Pale [a town south-east of Sarajevo], but it became obvious that it was too dangerous to go there so we turned back."

Having caught a glimpse of the unrest in Zvornik, they decided to return there, but even though they'd driven through the area with relative ease just days before, the road was now blocked to them. To get through, Bell had to rely on his Bosnian-Serb interpreter and a little local liquor. "My interpreter, Vladimir Marjanovic, managed to persuade a drunken Serbian warlord [to let us pass]." A few miles before they reached Zvornik town, though, a local Bosniak policeman diverted them up a sideroad where they were to witness a scene as incredible as it was chilling – a sight not seen in Europe since WWII.

"There were thousands of refugees in the valley below, with all they could carry. Some of them were just sitting there. We were just two or three miles [3.2-4.8 kilometres] from Zvornik and you could hear the explosions – it's on the soundtrack of one of the reports I did. The refugees were very welcoming as there was no UN presence at that time [at least in this region]. We were actually surrounded in one village and they applauded us. I remember telling the cameraman to take the camera off the tripod to shoot; they were very moving scenes. There must have been 20,000 on the move that day, many walking to the city of Tuzla, which was approximately 20 miles [32 kilometres] away."

That footage had a profound impact on Bell at the time as well. "While I was editing it at the Hotel Serbia in Ilidza, a diplomatic mediator arrived with a great motorcade. I went downstairs and confronted him, saying, 'You've got to make people understand what's going on here,' which wasn't really a journalistic function. He took it up with the Serbs, who, of course, denied any of it was going on." But as far as Bell is concerned, there was no mistaking what was going on. "This was the start of ethnic cleansing."

'Ethnic cleansing' was the name given to the mass displacement of Bosniaks at the beginning of the war because if it had been defined as 'genocide' then the UN would have been forced to take action. This distinction would only come much later, with the even bloodier and more well-known atrocities at Srebrenica, where some 8,000 were slaughtered. The subjugation of this region in 1992 has since become known as the Zvornik Massacre, but amid the chaos and press restrictions at the time it was difficult to recognise events for what they really were: an extermination.

Armoured vehicles of the press corps outside the Sarajevo TV station

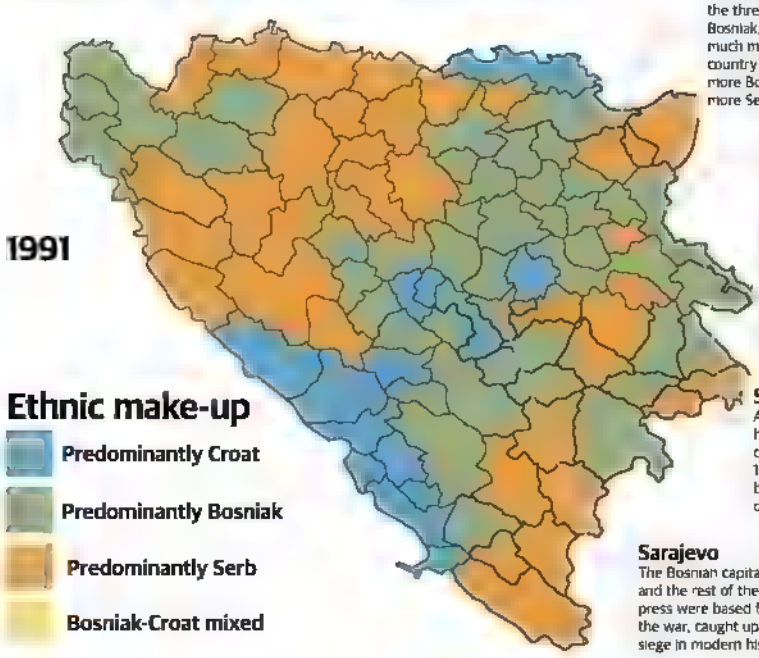
"The complicating factor was that we weren't allowed to film the takeover of Zvornik," says Bell. "That was done by a Serbian friend of mine – Dragan Havzijevic. The opening 45 seconds of my report was shot by Dragan, showing 'Arkan' [the leader of the infamous 'Tiger' militia group, Zeljko Raznatovic] saluting the Serbian flag as it went up over Zvornik. We also saw several surviving Muslims wearing green armbands, put on them by the Serbs, carrying bodies out of [their homes]."

After the report was broadcast Bell got into trouble with Arkan – a man you did not want as your enemy – because of the casualty figures he had stated. "I had estimated 200-300, and they said that was far too high. I had to do a second report the next day to ensure that Dragan wasn't retaliated against." However subsequent evidence – mainly excavated mass graves in the area – suggests Bell's estimate was, in fact, conservative, with new figures pointing closer to 800-900 – or even higher. "To this day, we just don't know how many Muslims were killed. Everything is so fragmentary at that stage."

With such flagrant disregard for human rights, or

> "We were two or three miles from Zvornik and you could hear the explosions – it's on the soundtrack of one of the reports I did"

Before and after the war



Before war
According to census figures, the three main nationalities Bosniak, Serb and Croat were much more mingled across the country in 1991, notably with more Bosniaks in the east and more Serbs in the west.

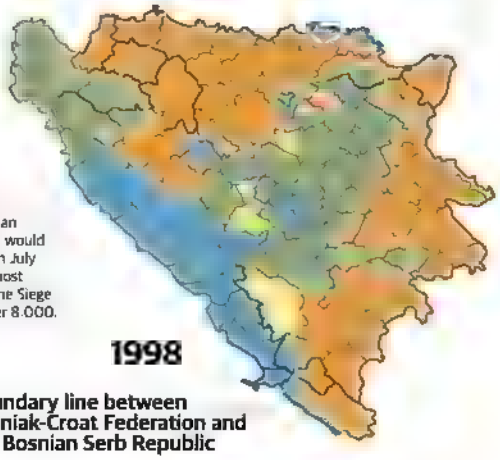
After war
The Dayton Agreement in 1995 divided the country into two: Republika Srpska (Serb) and the Federation of Bosnia-Herzegovina (Bosniak and Croat); the white line shows the boundary. Serbs actually gained three per cent more territory, but had to relinquish more economically important areas, eg the majority of Sarajevo.

Republika Srpska
Bijeljina, Zvornik and Srebrenica all now lie within the Serbian Republic part of Bosnia, though there was a call for Srebrenica to be made independent in 2007.

Zvornik
The next city to be claimed by Serbian forces, largely due to its strategic transport links, many thousands of Bosnian-Muslims were forced to abandon their homes and several hundred were killed in what is now known as the Zvornik Massacre.

Srebrenica
An enclave of eastern Bosnia about an hour south of Zvornik which the UN would declare a 'save haven' in 1993. But in July 1995 it would witness the second-most bloody event of the conflict (after the Siege of Sarajevo), with a death toll of over 8,000.

Sarajevo
The Bosnian capital is where Bell and the rest of the international press were based for most of the war, caught up in the longest siege in modern history.



drawing a line between military and civilian targets, many have questioned whether lessons couldn't have been learnt from events at Zvornik and future deaths prevented. Perhaps Srebrenica in 1995 – a horror that the International Criminal Tribunal for the Former Yugoslavia has since vividly described as 'truly scenes from hell, written on the darkest pages of human history' – could potentially have been prevented.

"We didn't want to learn," Bell says, matter-of-fact. "We were not willing to take the risks. But it was as a result of the events of that terrible spring and the press coverage that eventually the UN sent a force." Like any war, nothing is as black and white as it might seem from the outside, and the Serbs were not the only group carrying out atrocities, especially as the war progressed.

"One of the worst massacres I saw was in a village called Ahmici where over 100 Muslims were killed by Croats in April 1993. There was no Serb within [16 kilometres] ten miles of there. Then there was a case in the village of Uzdol where the Croatians were surrounded by Bosniaks [where approximately 60 civilians were killed]. And there was an army convoy which was agreed to leave Sarajevo stopped by militiamen and eight were killed in an ambulance. There was no monopoly of violence; there was a preponderance, but not a monopoly."

Compared to all the other conflicts Bell has reported on, from Northern Ireland to the Gulf War, Bosnia "was by far the most severe and the most dangerous, because you were caught for three and a half years in a war among the people. We shared their dangers, we walked among them every day. In fact, I reached the stage where I wouldn't wear my flak jacket any more; it seemed insulting that I had protection and they didn't."

It might be 18 years since the Bosnian War ended – along with the horrific genocide that used civil war as its smokescreen – but Bell is still fighting on, sans flak jacket, for those that lost their lives. Since 1995, Bell has given evidence at the War Crimes Tribunal at the Hague five times to help bring those responsible for the terrible events he witnessed to justice – the last time at the trial of General Ratko Mladic in January 2013. "What I reported at the time is now introduced as evidence in a court of law, and that's quite an intimidating experience. But when I see these videos, there's nothing that I think I got wrong, nothing at all."

UN Peace keepers collect bodies from Ahmici in April 1993

In Harm's Way shares Bell's experiences during the Bosnian War with insightful commentary detailing the everyday living to its global ramifications. The book was re-released on the 20th anniversary of the war with an updated introduction.

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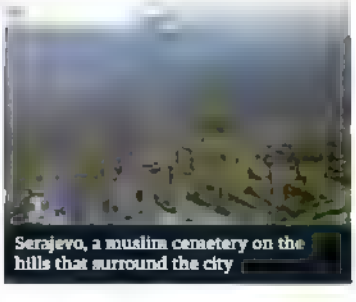
allabouthistory@imagine-publishing.co.uk

Origins amd aftermath

Midway between Europe and Asia, Bosnia has always been a melting pot of cultures and faiths. For centuries it drew strength from its diversity, but after WWI the balance was thrown off-kilter by the formation of Yugoslavia, with Belgrade as its main powerbase. When a new wave of self-determination swept through Europe in the Nineties, Yugoslavia was destined to go the same way as the Austro-Hungarian Empire before it. While Slovenia and Croatia – the first states to secede in 1991 – enjoyed some degree of a 'buffer' between Serbia and less complicated demographics, Bosnia, unfortunately, did not. The result was all-out civil war and invasion by Serbian paramilitary troops less than a month after it voted for its own independence. Over 98,000 are estimated to have died in the conflict; some 65 per cent of these were Bosniaks, many of whom were victims of genocide. Signed on 14 December 1995, the Dayton Agreement brought an end to the war and essentially split the country into two: the Federation of Bosnia-Herzegovina and Republika Srpska, each with its own government.


Serajevo, a muslim cemetery on the hills that surround the city

© Getty Corbis, icty

Destination
CHINA, GANSU - HEBEI PROVINCE

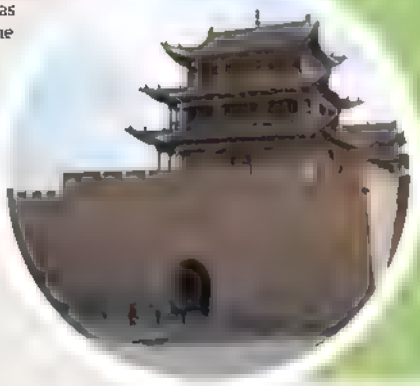
Tour Guide
Great Wall of China

Discover one of the wonders of the world, representing over 13,000 miles of history and designed to protect against barbarian hordes

Start here

01 Where exiles were banished

The 'First and Greatest Pass Under Heaven', was one of the key entry points into China from the West. This portion of the wall features huge castles, moats and other defensive structures that mark its strategic significance. In the times of the emperors, this gate was often referred to as the 'Gate of Demons', since it was commonly used to banish men and women who had fallen out of favour. As traveller Mildred Cable noted: 'Some were heavy-hearted exiles, others were disgraced officials and some were criminals... torn from all they loved on earth, banished with dishonoured name to the dreary regions outside'



02 TRADE ENTRY POINT

Far from being impenetrable to western travellers and traders, the wall served as an entry point for caravan trains travelling on the 'Silk Road' from the Middle East. Traders and travellers would have to gain permission to enter, but this was often of little consequence. If you were a trader of exotic goods or could afford a large bribe, then access to the heavenly kingdom could be obtained.

03 Breached by Mongol invasion

Due to the fractious nature of the wall's construction and the various start and end points of different sections, the Mongol horde under Genghis Khan found little difficulty in circumnavigating sections of the wall and penetrating into China's interior. The Jin Dynasty eventually fell to the Mongol horde, prompting the Mongol rule of China that lasted for nearly 200 years.

04 Host to Richard Nixon

Juyonggu.an pass is the most strategically vital section of the Great Wall. Constructed during the Qin Dynasty, this section features more military towers than on any other part of the wall, highlighting its importance to the defence of the empire and one of the emperor's most important cities: Beijing. The section also features the famous Cloud Platform that the emperor passed through every year with his huge household as he travelled to his summer palace during the Yuan Dynasty. It's northern section, the Badaling, also played host to Richard Nixon and his wife during their historical visit to China at the height of the Cold War.

08 WATER PASSAGE

The Jiumenkou bridge section is the only part of the wall that is built on water. Nine five-metre-high (16 feet) sluice gates were used to regulate the flow of the river, allowing it to ebb or flow if it was needed to block approaching enemy armies.

10 Japanese invasion attempt

While the wall's practical use had long diminished by the 20th century, the defence of the Great Wall during the Sino-Japanese war saw Chinese soldiers desperately trying to defend the Shanhai pass against a Japanese invasion army. Bullet holes from the pitch battle can still be found on this section.

07 Built with stone and rammed earth

Originally built by Emperor Qin Shi Huang during the Qin Dynasty to keep away the barbarian nomads in China's northern regions. Qin ordered millions of Chinese peasants to begin working on the first sections of the wall using local resources. This was one of the reasons why in certain areas of this section the material used was not stone but rammed earth. While the rammed earth sections have now eroded, the stone sections are still standing.

09 The sorrow of Meng Jiang

In the vicinity of Shanhaiguan sits the shrine of Lady Meng Jiang. Meng Jiang's husband was sent to build the wall along with thousands of other peasants. Hearing nothing from her husband for some time, Meng set out to find him and discovered that he had died. According to legend, her weeping was so intense that it destroyed the part of the wall where her husband worked – and so the shrine is dedicated to Meng and her kind heart.

05 First viewed by Western eyes

One of the first travellers from the West to see the Great Wall was Ibn Battuta, a Moroccan explorer who travelled to China in the 14th century. After seeing the wall, he asked fellow Muslims about the wonder. The reports he sent back spoke of Dhul-Qarnayn of the Qur'an building the wall to contain the demons Gog and Magog, in order to protect Muslims from their evil influence.

06 VITAL DEFENCE

The Wohushan section of the wall is built over two mountains giving the appearance of a crouching tiger. Built nearly 500 years ago during the Ming Dynasty, it represents one of the oldest sections of the Great Wall.

The wall as a symbol

It was the symbolic meaning of the wall – representing China as the chosen kingdom with its stone boundaries signalling the end of advanced civilisation – which ultimately led to China's fall in the 19th century. The failure of the empire to embrace new foreign ideas and inventions created a hopelessly backward Chinese society that was left open to foreign invasion. While the wall remained the same throughout the 19th and 20th centuries, the Chinese were forced to change. The tide of war and foreign interference that the wall could no longer keep out had a radical effect on the Chinese. It created leaders who sought to rebuild Chinese power and dominance in Asia. Today, the wall symbolises a new China that embraces the attention and business of foreigners. The Great Wall will never again serve as a barrier to progress.

© Getty

Heroes & Villains

Maximilien Robespierre

One revolutionary's quest for power, liberty and the love of the people in 18th century France

Written by Chris Fenton

In the elegant château of the Hôtel de Ville, Maximilien Robespierre had his head in his hands and was contemplating his fate. The revolution he sparked to set men free had finally caught up with him, he was now the prisoner of the revolt he once commanded. The guards would be coming soon to take him to his show trial but he had made up his mind. He would not suffer the terrifying prospect of being guillotined in front of cheering crowds – the fate he had forced hundreds of people to endure when he was in power. He put his finger on the trigger of his pistol, held it to his jaw and pulled the trigger

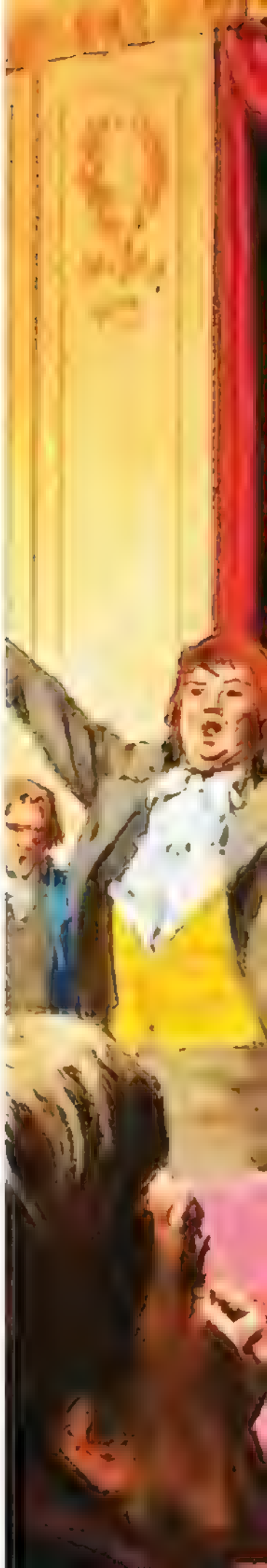
Robespierre was not a man marked for greatness – it was his ambition and intelligence brought him power. Residing from Arras, a town in northern France, he had an unhappy childhood. The death of his mother when he was six-years-old and his father deserting his family shortly afterwards brought rumour and suspicion down on his family. He and his four siblings were split up to live among relatives and suffered the constant shame of their father's actions from the town's people. Rather than wallow in self-pity, Robespierre decided to make the grim world around him a better place for unfortunates like himself. He read the words of Rousseau, who assured the French people that humans were naturally good, that there was no such thing as 'bad blood' – words that had taunted Robespierre during his childhood. He took comfort in this prose, won himself a scholarship to a law school and began a career as a litigator specialising in civil liberties.

> Robespierre was a committed Christian who tried hard to fuse together his religous and enlightenment beliefs

He quickly gained a reputation for honesty and integrity in the cases he sat for, taking particular interest in combating abuses of power from the French monarchy and, ironically, the curbing of dictatorial rule in the French political system. He fought injustice wherever he saw it, taking on cases from the poor out of principle and, like a true man of the enlightenment, worked himself up from provincial obscurity to the basin of French power in Paris. In 1789 he was elected as a representative of the estates-general to usher in reforms of the corrupt French monarchy. His idealism for a better world had not been extinguished though, proved by these words he wrote to his sister, 'My life's task will be to help those who suffer.'

During the initial meetings of the estates-general his speeches were shouted down because of his small voice, but for the people who were paying attention he quickly gained a reputation for political astuteness and the possessor of a uniquely sharp mind. It was here during this turbulent period of revolution, that Robespierre found his feet. He preached to the revolutionary Jacobin club as if they were his flock ready to do battle against injustice, his newly found tenacity earning him the unofficial leadership position of the Jacobins by 1791

Along with this new dynamism came a change in his character. He realised liberty could not blossom without a firm hand guiding it. He successfully lobbied for the king's execution after it was discovered that Louis had tried to escape from Paris and was asking foreign powers to invade



"He fought injustice wherever he saw it, taking on cases from the poor out of principle"
His speeches are remembered as insightful, but he was a poor public speaker due to his small voice and nervous disposition in crowds

Jacobin club

As the mouthpiece of the revolution, the Jacobin club represented a network of political fraternities that were designed to give revolutionary thinkers a chance to air their views to other like-minded gentlemen. They were a group of enlightenment thinkers who campaigned for freedom, liberty and justice under a Republican government. It was one of the first places that Robespierre gained his reputation as a man who could lead France to a new beginning. By the 1790s the influence of the club was so huge that Robespierre would try to gain support for his new policies by speaking to the Jacobins first before bringing his new legislation to the government. Despite being 'friendly' to the new order, even government officials the Jacobins helped bring into power were not above criticism within the club, and lack of favour could spell trouble.

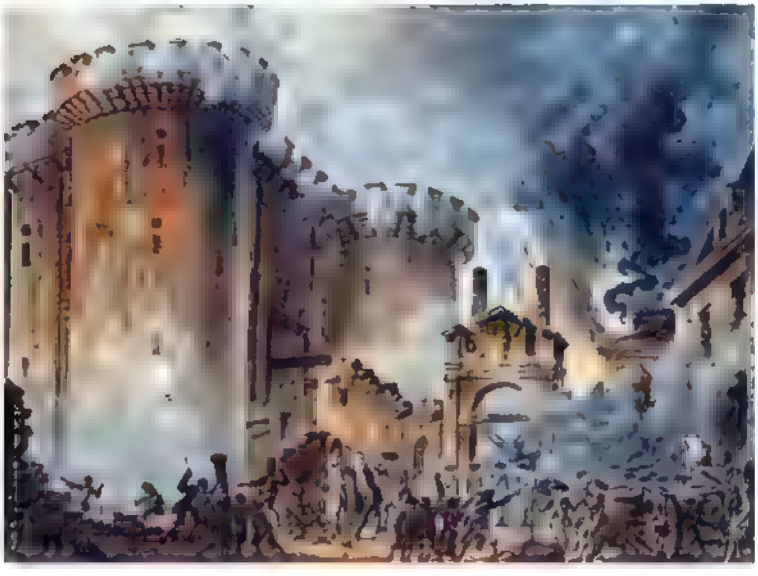
"Robespierre's zeal for punishing enemies was so intense that Parisian jails were full to capacity"

France. But far from ushering in the stability Robespierre sought for the nation, Louis's execution in early 1793 only increased the violence as pitched battles between royalist sympathisers and republicans engulfed the countryside. It was clear to Robespierre that France was descending into chaos and he believed himself to be the man who could prevent the revolution from falling into anarchy.

He facilitated his rise to the committee of public safety, an organ of the government ostensibly established to deal with the various monarchical powers abroad, which had declared war on France. Its power and influence had been radically expanded after the execution of Louis XVI at the beginning of 1793 and it was now charged with rooting out trouble at home. In the same year Robespierre was elected to the leadership position of the committee and set about destroying dangers to the revolution wherever he found them – instigating what history would call 'the reign of terror'. He successfully saw off the men who planned to destroy the church system, declaring them dangerous to the nation. He had the radical anti-cleric Jacques René Hébert guillotined in 1794, cutting off his influence along with his head. Fanatics like Hébert served their purpose but ultimately were as dangerous to the stability of the nation as the royalists.

Robespierre was nicknamed 'the incorruptible' by his colleagues because of his uncompromising view of his own principles.

By June 1794 Robespierre's zeal for punishing enemies of his new order was so intense that Parisian jails were full to capacity with traitors. The problem of what to do with these people was solved by Robespierre who enacted new laws that dispensed with defence council and witnesses for 'enemies of the people' in order to dispose of cases quicker. There was only one punishment for these traitors – death by guillotine. As far as Robespierre was concerned this was a just form of punishment in this new age of equality since commoners and kings died the same way. His popularity with the people was growing to dangerous levels and at the height of his power he merely needed to voice his opinion at the Jacobin club and a new law would be enacted or a hapless individual would be condemned. As a contemporary noted, 'he saw himself as the public school headmaster of a slum school, devoted to his pupils [the people] and all that – so long as they



Defining moment
Storming of the Bastille
14 July 1789

The Bastille prison is stormed in a violent turning point in the revolution. The act of storming the prison, a symbol of royalist authority in Paris, shows Robespierre that the French masses wanted no compromise in dealing with the royal family. While the physical act of storming the Bastille actually achieved very little in terms of prisoners released – there were only seven people in the jail at the time – the symbol of French mobs assaulting a royal fortress becames a potent rallying cry for further upheaval.

Defining moment
Royal family arrested
10 August 1792

After rumours circulate in Paris that Louis will bring foreign troops to France in order to rescue him, crowds working for the republicans burst into the palace grounds to seize the king. The royal family escape under gunfire and seek shelter in the legislative assembly established to work with the king to maintain the monarchy. They are promptly arrested and the legislative assembly is dissolved.

Timeline

1789

Elected to power
After becoming a popular lawyer, Robespierre is elected to the estates-general in Paris, which demands reforms from the king. His initial speeches are largely ignored but the content does inspire some early followers.
May 1789

Tennis Court Oath
The first time Louis XVI was formally opposed, Robespierre and 576 other signatories sign the Tennis Court Oath. They promise that the estates-general will meet until a new constitution based on liberty is signed in defiance of the French king.
20 June 1789

Jacobin approval
After hearing Robespierre speak at the club's meetings, the Jacobin members elect him as president of the club and he becomes one of the key voices of the French revolution.
April 1790

Massacre at Champs de Mars
A resolution tries to bring the crown and the National Assembly (evolved from the estates-general), together. As a result, there is a republican riot in the city, killing many royalists. Robespierre flees until the mob is appeased.
17 July 1791

Royalty outlawed
In the wake of escalating violence, Robespierre seizes his chance and moves for the complete abolition of the monarchy and the declaration of a republic under the convention where he has the commanding voice.
21 September 1792

The Parisian mob

The Parisian mob was one of the most dangerous and unpredictable elements of the French revolution. The mob projected propaganda of the revolution in mass rallies and demonstrations outside the city's buildings of power. Even Robespierre stood in fear of the masses and the destruction they could cause. In the September Massacres of 1792 the the mob ran amok; storming the Parisian jails and butchering the royalists held inside, including many women and children. It was reported later that noble women were literally torn to pieces by the enraged crowd. The spectre of the mob played a critical part in post-revolutionary thinking and part of the reason so many people were executed was to appease the crowds gathered around the guillotine.

remembered that they were his and they were only pupils.

For a time, this paternal relationship with the nation worked and Robespierre was the champion of the revolution. His utopian vision of a new, democratic France under liberty would be realised no matter how many traitors had to die in the process, and he convinced the people to support him. As he wrote in 1794, 'The government in a revolution is the despotism of liberty against tyranny'. This brutal ideology brought its share of critics and he suffered an assassination attempt while walking through Paris in the spring of that year. The assassin was a 16-year-old girl with a fruit knife who wanted to see what a tyrant looked like. Her fate was the same as thousands of others scheduled to visit Madame Guillotine.

During his early career as a lawyer he was outspoken supporter of human rights and civil liberties

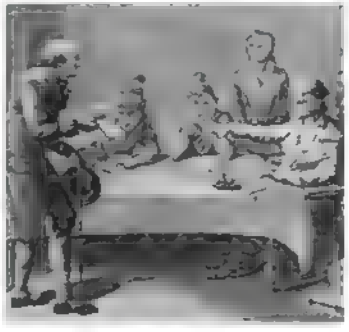
The attack shook Robespierre; his strongest shield against criticism was the people's love and the fear that inspired in his enemies. Yet he was resolute on pushing on, the ideals for his new republic were too important. In response to the increased lawlessness, he enacted yet more oppressive powers, now death penalties could be passed down to suspected traitors even if there was no hard evidence. He became distant, his colleagues started to mock him and he could no longer muster support from the Jacobins. He was shouted down at the convention, the new people's assembly, and accused of being a tyrant. On 27 July 1794 his former colleagues issued a warrant for his arrest as a traitor of the people. He still had enough supporters in Paris to lead a counter rebellion but he was exhausted, so allowed himself to be arrested. He had lost the people and with them, his revolution.

Two national guardsmen burst into the room as the gun went off. The sound of the door threw off his aim, and the bullet clipped his jaw, but not fatally. He was dragged to the committee of public safety where he spent the night bleeding from his mouth. His trial lasted no more than a day. As he was dragged outside, the Parisian mob jeered for blood and National guardsmen had to hold them back. He saw the guillotine and recalled the words of his last speech to the French people: 'Death is the commencement of immortality'. He prayed it was true.

Defining moment

Ascension to power
27 July 1793

Robespierre is elected to the committee of public safety, the government department that now represents real power in France. He now holds de facto control over the military, government, and life and death. While the department is technically elected by the convention, the new legislative assembly in France, in practice it operates as a virtual dictatorship. It is tasked with hounding out traitors and destroying enemies of the revolution. Robespierre sets about this task with zeal.



Madame Guillotine
With increased discontentment over the amount of death and destruction caused by the revolution, Robespierre falls out of favour with the Jacobins. He is arrested and found guilty of treason – his fate is then sealed by Madame Guillotine.
28 July 1794

Execution of a king
Louis XVI is executed to the horror of royalists in France and monarchists abroad. Robespierre declares it to be a necessity and asserts to the leadership of the revolutionary movement.
21 January 1793

The terror
Robespierre is now in nominal control of the country through his leadership of the committee of public safety. He instigates a reign of terror to force through revolutionary ideals.
5 September 1793

Marie Antoinette dispatched
Fearing that Marie Antoinette will become a rallying point for more royalist resistance, Robespierre supports moves to have her executed as a traitor.
16 October 1793

The drain on resources from fighting in wars led to King Louis XVI falling out of favour with the public

The times of Robespierre

Assaults on the faith

New enlightenment ideals had cast organised Christianity and its established dominance over life in Europe into a bad light by the late 1700s. Religion was seen to oppress man and his rightful place as a freethinking being by enlightenment thinkers, Robespierre was very much in the minority when he professed to be a man of the enlightenment and faith.

Enlightened thinking

The great dawn of enlightenment thinking originated in France through the works of Voltaire and Rousseau. Both men wrote about the 'spirit of the nation' and the nature of liberty among the people. While these ideals of equality were popular among the more learned gentlemen, they challenged the long-established order of church and monarchy which caused massive upheaval.

Problems abroad

War in Europe and insurrections in the colonies depleted the strength of the French monarchy. The drain of the country's resources in fighting these wars meant that the king could no longer feed his own people, leading to popular disaffection and the classic (and untrue) Jacobin slander of Marie Antoinette and her 'let them eat cake' comment.

The nobility and the common people

The French class system instructed and governed the French people during this period. The king and the Royal family ruled the entire country and the aristocracy ran the provinces in their name. However, as Robespierre reached adulthood this was changing; an emerging educated middle class started to demand reform and advancement based on merit as opposed to birth.

The nation

The idea of the 'nation' was a new and explosive concept during this period. Before, there was no such thing as a nation other than the kingdom ruled by the king. By the end of the 1700s new ideas of the nation belonging to everyone through universal suffrage developed, and explosive examples of popular protest against the established order began.

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Bluffer's Guide
The British Raj

INDIAN SUBCONTINENT, 1858-1947

Who were they?

The means by Britain ruled India. The British set up structures to try and govern the vast territory with a viceroy at the top and approximately 20,000 civil servants. Without the help of the Indian princes and local leaders, though, they wouldn't have been able to maintain control.

Who ruled before the British Raj?

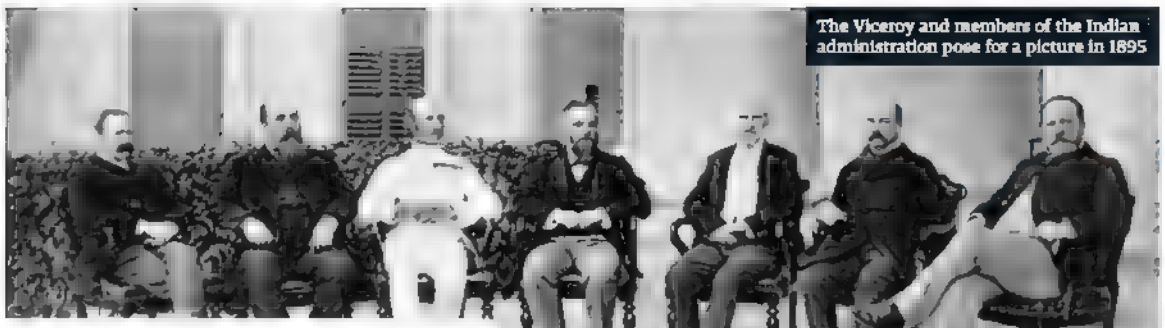
India was governed by the East India Company which was given a monopoly of all English trade to Asia by royal grant. Following the Indian rebellion of 1857 which lasted for 18 months, the British government - which had already began to curtail the power of the company - took control in 1858.

Human resources

The British Empire used the human resources of India to the full, with the British Indian army being used by the Raj to put down any potential rebellions. This force also played an important role in both World Wars and other conflicts.

Ruling provinces

Not all of India was controlled by the Raj, with two fifths of the country independently governed by principalities. The British Raj ruled eight major provinces, and by the end of their rule there were over 500 nominally independent princely states.


The Viceroy and members of the Indian administration pose for a picture in 1895

Divide and conquer

Indian society was deeply divided among religion and castes. The British added to these divisions within Indian society by encouraging those of a higher class to be educated at British schools and then serve in the British army or as civil servants, and thus effectively be part of the mechanics of ruling their fellow countrymen.

Self rule

Protests against British rule came in different forms, from violent to non-violent actions. Gandhi advocated peaceful protests and became a figurehead of the movement with his speeches and marches, but he was far from the only leader of a movement that had many factions.

Gandhi marched for 240 miles to protest over the British monopoly on salt

Lord Mountbatten oversaw the transition of power from the British Raj to independent India

Indian troops served in numerous British wars and both WWI and WWII

Natural resources

India brought huge benefits, with exports from the country estimated to be worth over £135 million by 1910. In 1901 the viceroy of India, Lord Curzon, said, "As long as we rule India, we are the greatest power in the world. If we lose it we shall straightaway drop to a third-rate power."

End of an era

With a growing number of Indian citizens demanding independence, the movement gained momentum and the election of Labour – who had traditionally supported self rule – in the UK was a turning point. On 14-15 August 1947, the Indian Independence Act put an end to British rule.

Key figures

Babu Kunwar Singh
1777-1858
A key figure in the Indian 'rebellion' of 1857, the 80 year old secured victories before being dying from battle wounds.

Mahatma Gandhi
1869-1948
The British-educated barrister was one of the main thorns in the Raj's side.

Clement Atlee
1883-1967
An exponent of Indian independence, this accelerated when he became Prime Minister in 1945.

Lord Mountbatten
1900-1979
Appointed the last ever Viceroy of India, he was charged with overseeing the transition of British India to independence

Jawaharlal Nehru
1889-1964
Leader of the Indian National Congress at the time of the partition of India and the first ever Indian prime minister

Major events

Indian rebellion
1857
A major Indian revolt against the British Indian Company lasted for 18 months and saw atrocities committed by both sides.

December 2
1885
The Indian national congress is founded. It initially lacked power, but became highly influential

Salt march
1930
Gandhi's march of 240 miles against the British salt monopoly led to the arrest of 60,000 people.

WWII
1939
The Viceroy of India declared that the country had entered WWII without any Indian consultation. Members of The Indian national congress resigned in protest.

Independence
1947
The Indian Independence Act was invoked and the era of British rule ended.

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THE MAKING OF CHURCHILL

For five years Winston Churchill stood as a beacon of freedom in the darkest days of World War II. We discover how this unlikely champion picked up the skills to take on his Axis foes

Written by James Hoare

In the blustery summer of 1940, British Prime Minister Winston Churchill gazed across to the distant shores of continental Europe, where the Nazi war machine had brought down Europe's great democracies, and said, "No more." Britain was battered and bruised, the Commonwealth and Empire stretched to breaking point, and a humiliated rag-tag of defeated armies pulled from the burning wreckage of conquered states stood in opposition to a nigh-on-unstoppable totalitarian Axis of Nazi Germany, Fascist Italy and Imperial Japan. Standing tall against this, Churchill was as powerful and enduring a symbol of the free world's defiance as the leonine roar of the Spitfires above the green patchwork of southern England.

That they were fighting on was testament to Churchill's abilities as a leader – he cajoled and convinced, bullied and hectored and played the rousing symphony of public opinion like a master conductor. Even the British establishment, panicked by the fall of France in June 1940 into contemplating surrender, needed to be picked up, dusted down and pushed back into the fight, and Churchill proved to be the perfect man for the job. The former Prime Minister is widely regarded as one of the 20th century's defining world leaders, yet Churchill's legacy hinges almost entirely on his performance during World War II. However, in truth, every great decision he made between 1940 and 1945 had already been foreshadowed by a long, distinguished and even chequered career that saw him influence the tide of history from the ministries of the British state, the back benches of the Commons, the officer's saddle and even the pages of the national press.

Britain's WWII leader was born in 1874, the son of Lord Randolph Churchill, a larger-than-life parliamentary figure in his own right who became Secretary of State for India, Chancellor of the Exchequer and Leader of the House of Commons by the time Winston was 12. Their relationship was distant, with Winston recalling later in life that they hardly spoke, but they shared many of the same qualities. Both men had a reputation for fantastic oration with Randolph's childhood friend Lord Rosebery remarking, "His wit, his sarcasm, his piercing personalities, his elaborate irony, and his effective delivery, gave astonishing popularity to his speeches." They also shared radical mood swings, a driven work ethic and a taste for alcohol. Lord Randolph's death in 1895, aged 45, instilled in his 21-year-old son a fear that he too would die young, adding to his ambition and enduring reputation as 'a young man in a hurry'.

Winston spent four of the first six years of his life in Dublin where his grandfather, John Spencer-

Churchill, was the Lord Lieutenant - effectively the monarch's representative in the then British-ruled Ireland. This is where the bulldog-to-be may have first found himself fascinated by troops, as he watched them parade outside his window. Lord Randolph would later prove a fierce opponent of any sniff of Irish nationalism, coining the slogan, 'Ulster will fight, and Ulster will be right' beloved of the Protestant Unionists in Northern Ireland. In 1914, as Britain attempted to sooth the nationalists in the run up to WWI, Churchill would campaign vociferously in favour of the Home Rule Bill - using his role as First Lord of the Admiralty to order a squadron of battleships to Belfast as a threat to the mobilising Protestant paramilitaries, the Ulster Volunteers.

This was arguably the first time that Churchill's now-legendary immobility and refusal to compromise - which would be an enormous benefit during WWII - came into play. The government opted to negotiate, rescinding Churchill's order and entering a dialogue that would in 1914 lead to the partition of Ireland. This sort of compromise was anathema to Churchill, foreshadowing his dogged criticism of appeasement of Nazi Germany in 1937, his brutal response to the general strike in 1926, his dispatch of the infamous Black And Tans to Ireland and his belligerent denial of the Indian independence movement under Mahatma Gandhi. Churchill outlined his stance in his memoirs, writing, "I have always urged fighting wars and other contentions with might and main till overwhelming victory and then extending the hand of friendship to the vanquished... I thought we should have conquered the Irish then given them Home Rule, and that after smashing the General Strike we should have met the grievances of the miners."

As a blue blood growing up in the shadow of the British Empire, Winston Churchil seemed destined for the military, and with his poor academic record, it was one of the only viable routes available to him. The entrance exams for officer cadets at the Royal Military Academy at Sandhurst were considerably less trying that those of an Oxbridge undergraduate, and Churchill soon found himself a young officer in the 4th Queen's Own Hussars, fighting to enforce the will of the Empire across territories like South Africa, India and Sudan. Using his family connections, he secured postings in the most dramatic conflict zones of the day, earning extra money and building his public image through journalism with a view to "Return with two more decorations... and beat my sword into an iron dispatch box."

Churchill's war reporting was particularly jingoistic, and spoke loudly of his view of Britain's place in the world and of his attitudes to the Empire. "The British army had never fired on white troops since the Crimea, and now that the world was growing so sensible and pacific - and so democratic too - the great days were over," he wrote, "Luckily, however, there were still savages and barbarous peoples. There were Zulus and

Churchill gives his final address during the 1945 election campaign

"Churchill genuinely believed in the British Empire as a civilising force that would bring cricket, decency and the English language"

War on communism

How Churchill's Russian folly made an enemy of Stalin

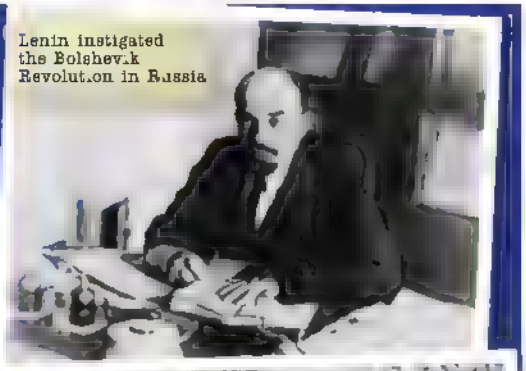
Following the Bolshevik Revolution and the sudden collapse of the Eastern Front in 1918 as Lenin's newly red Russia made peace with Germany, Churchill - as Minister of Munitions, and as of January 1919, Secretary of State for War and Secretary of State for Air - was determined, "To strangle at birth the Bolshevik State." The British North Russian Relief Force landed at the sea port of Arkhangelsk to aid the 'White' anti-communist faction in the Russian Civil War, but between June 1918 and March 1920 little gains were made. However, this campaign was the scene of the first ever intricately co-ordinated aerial and naval bombardment and amphibious landing, a neat foreshadowing perhaps of one of the greatest such operations in history - D-Day.

Outlasting World War I, it became an increasingly bitter affair, motivated by rabid anti-communism that saw the press dub it 'Mr Churchill's private war'. On the ground court martials and disobedience were common, along with threats of strike action as soldiers realised that while their comrades on the Western Front had headed home, they were trudging through the snow being peppered with sniper fire.

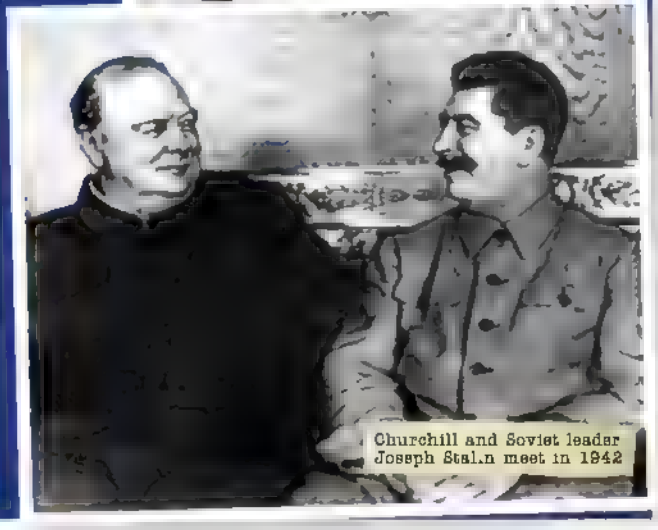
Though Churchill and Stalin wouldn't meet until 1942, Stalin would come face to face with British forces in June 1919 when the 41-year-old ex-seminary student and bank robber from Georgia was leading the fighting against British troops. In honour of Stalin's defiance, Tsaritsyn would be renamed Stalingrad in 1925, and come World War II would be the scene of a bigger and bloodier battle.

Future influence

Though Churchill was quick to support the Soviet Union when Nazi Germany invaded in 1941, mutual suspicion between the two leaders always remained, in no small part because of Churchill's anti-communism stance. Throughout the war Churchill and Stalin had a strained relationship, and after the war's end Churchill advocated a pre-emptive attack using the re-armed remnants of the German army.



Lenin instigated the Bolshevik Revolution in Russia



Churchill and Soviet leader Joseph Stalin meet in 1942

Afghans, also the Dervishes of the Sudan. Some of these might, if they were well-disposed, 'put up a show'" These crude caricatures could be put down to the ignorance of youth, but in 1920 he mused on the links between Judaism and Bolshevism, and later still, in 1937, he spoke of the Native Americans and Australian Aboriginals, saying, "I do not admit that a wrong has been done to these people by the fact that a stronger race, a higher-grade race, a more worldly wise race to put it that way, has come in and taken their place."

The British Empire might have been at the height of its influence and prestige while Churchill galloped about, but over the decades that followed his entry to the Commons for the first time in 1900 as the MP for Oldham in Lancashire, it would swell to its geographic limit, creaking under its own weight and throwing up a set of challenges that would flow like tributaries into the churning oceans of the two world wars. Whether fighting for Britain with his thunderous rhetoric from the green benches of Parliament or with his cavalry sabre on dusty Sudanese slopes, it's clear Churchill saw it as one calling, saying to a journalist in 1906, "Politics are almost as exciting as war and quite as dangerous."

As the dogged defender of an empire mostly gained and largely maintained through force of arms, through modern eyes Churchill had disquieting commonalities with fascist regimes. His brushes with racism and anti-Semitism speak for themselves, but unlike the future Axis powers, who saw expansion as purely for the betterment of their own people, Churchill genuinely believed in the British Empire as a civilising force that would bring trains, civil service, cricket, decency and English language to those unfortunate enough to have been born without them. The real overlap though, was a shared pathological hatred of communism, which could so easily have seen him become Hitler's cheerleader instead of implacable foe. He warned in 1929 of "A poisoned Russia, an

Churchill's medals

What Churchill's battle experiences reveal about the future leader of Britain

The 'rebellious' Pashtun Tribe

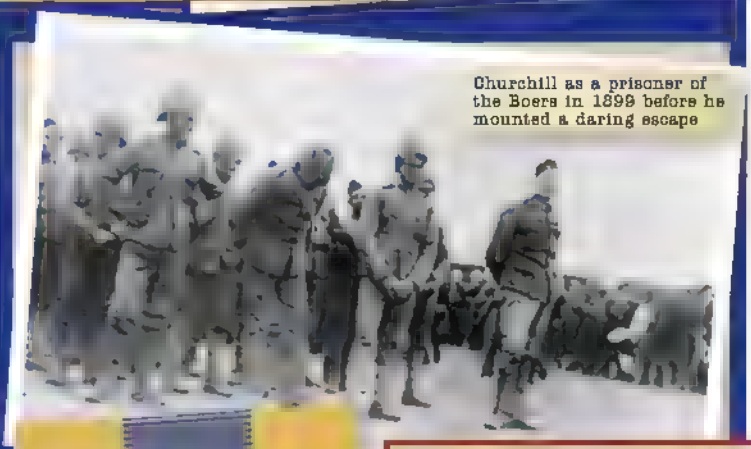
INDIA MEDAL (1898)
Churchill's first experience of the Empire in action, he served at Malakand in the lawless north-west frontier of India to put down rebellious Pashtun tribes. His experiences were recorded through various newspapers and his book *The Story Of The Malakand Field Force*.

Soldiers take a break from fighting during Gallipoli in WWI

VICTORY MEDAL (1920)
Following the Gallipoli backlash, Churchill headed to the Western Front to redeem himself. Though he disapproved of the overall strategy, he continued to exhibit daring and made 36 trips into No Man's Land. He wrote in his diary, "I have found happiness and content such as I have not known for many months."

The cavalry charge at the Battle of Omdurman

THE QUEEN'S SUDAN MEDAL (1899)
Transferred to Sudan with the 21st Lancers, Churchill took part in the decisive Battle of Omdurman against the rebels in one of the world's last significant cavalry charges.



Churchill as a prisoner of the Boers in 1899 before he mounted a daring escape

KHEDIVE'S SUDAN MEDAL (1899)
Resigning his commission for a failed shot at the Oldham by-election in 1899, he returned to the field the same year for the Second Boer War as a war correspondent. Ambushed while travelling, he escaped captivity and travelled 300 miles to safety

Future influence

Churchill's vast experience in the field shaped his policies during WWII and provided a solid grounding of military tactics. Perhaps due to his earlier career, Churchill would favour decisive and daring campaigns during WWII.

infected Russia, a plague-bearing Russia, a Russia of armed hordes not only smiting with bayonet and with cannon, but... political doctrines which destroyed the health and even the souls of nations." Earlier still, in 1919 he heaped the blame for WWI's catastrophic loss of life on not the German Empire or Austro-Hungary, but on the "baboonery" of Russian Bolsheviks who had pulled the country out of the war, saying, "Every British and French soldier killed last year was really done to death by Lenin and Trotsky"

The man who would one day stare down the Axis advance even praised Mussolini, saying in 1927, "If I had been an Italian, I am sure I would have been entirely with you from the beginning to the end of your victorious struggle against the bestial appetites and passions of Leninism" and showed Hitler begrudging respect. As late as 1935 he wondered, "Whether Hitler will be the man who will once again let loose upon the world another war... or whether he will go down in history as the man who restored honour and peace of mind to the Great Germanic nation." Whatever overlap existed between Britain's brand of imperialism – for all its misuse, still tethered to the principles of parliamentary democracy – and that practised by the racist and totalitarian regimes of Italy, Germany and Japan grew increasingly slimmer on the march to war. In parallel, Churchill's anti-red rhetoric also softened, and the bulldog not only attacked Prime Minister Neville Chamberlain's appeasement of Hitler, but criticised him for not seeking a rapprochement with Joseph Stalin's Soviet Union – an unlikelier U-turn is harder to image.

This shift in position, the one that ultimately placed Churchill at the helm of Britain in her darkest hour, was nothing to do with political ideology and everything to do with political reality. Churchill the enemy of communism had been trumped by that first love - Churchill the imperialist. His early fears of Soviet-backed mischief in India and Ireland had been replaced by Italian ambitions in the Mediterranean, Japanese ambitions in Asia and growing German naval power which brought them sharply into Britain's dimming spheres of influence. This rabid defence of the Empire, a product of his upbringing and his life serving this ideal, would shape his strategies in World War II, as well as transform him from an authoritarian avatar of the old order to the champion of freedom. The decision to fight primarily in North Africa, the Middle-East and

Upbringing

How Churchill's early years moulded his later career

With a family line that stretched back to John Churchill, the first Duke of Marlborough and commander in the 1701-14 War of the Spanish Succession that led to the acquisition of Gibraltar from Spain and Newfoundland and chunks of Canada from France, Winston seemed fated to serve as the British Empire's most ardent defender.

He was raised in the shadow of his grandfather and father, both career statesmen in the governments of Benjamin Disraeli and Lord Robert Cecil, the 3rd Marquess of Salisbury. Disraeli, credited with the formation of the modern British Conservative Party, also made it a party indivisible from the greater glory of the British Empire – bartering ownership of the Suez Canal and kicking off unpopular wars in South Africa and Afghanistan to pacific the rebellious population – a mission continued by Cecil, who presided over the First Boer War. It was into this most blue-blooded brotherhood and against this constant backdrop of overseas expansion that three generations of Churchills served in office and Winston himself was raised.

His relationship with his father was distant, and young Winston's upbringing was largely entrusted to a nanny – not uncommon for children of such stature – at the Malboroughs' ancestral Blenheim Palace, a seven-acre stately home in Oxfordshire, which in true Churchill family fashion has a prominent statue of Britannia presiding over two French captives. Following a number of schools ill-suited to Winston's difficult and distinctly non-academic temperament, he was sent to Harrow aged 13, where he found his true calling amid the dusty Latin rote learning – the Harrow Volunteer Rifle Corps. Other students recalled the Harrow Rifles as not being a particularly popular group until at least the late 19th century, so that Churchill joined within weeks of his arrival speaks volumes about his enthusiasm for military matters. In fact, despite his unease with education, the Harrow Rifles seemed to trigger a passion for knowledge in Churchill, who wrote to his father in 1889 that, "I bought a book on drill, as I intend going in for the corporal examinations next term." With many of the traditional careers set aside for his social class – law, civil service, and through them a route to politics – conditional on university education and so firmly out of Churchill's reach, Sandhurst beckoned, and with it a chance to fulfil that most ancient imperative of the Dukes of Marlborough – the defence of the Empire.

On a return home, the young Winston enjoyed a rare encounter with his father as Lord Randolph thoughtfully inspected his son's vast collection of lead soldiers. "He spent 20 minutes studying the scene, with a keen eye and captivating smile," Winston recalled in his autobiography. "At the end he asked me if I would like to go into the army. I thought it would be splendid to command an army, so I said 'Yes' at once; and I was immediately taken at my word."

2nd Lieutenant Winston Churchill, 1898

Future influence

Churchill was brought up in an era in which the British Empire was the dominant force on the planet, whose influence spread far and wide. Aligned to his aristocratic upbringings, it is no surprise that Churchill was brought up utterly confident in his, and his country's place in the world. This confidence – unshakeable and at times unjustifiable – would strongly influence how he led the country after 1940.

Key moments that shaped Churchill

1895

Army service
1895
Churchill joins the 4th Hussars, and goes on to serve in India, Sudan and Egypt.

Daring escape
1899
Churchill is captured in the Second Boer War, becoming a celebrity, and a year later is elected as a Conservative Party MP.

Party defection
1904
After opposing a government bill, Churchill is de-selected by the Conservatives and joins the Liberals.

Real power
1910
He becomes Home Secretary, sends troops to support the police against striking miners and proposes a referendum on women's voting rights.

Naval reforms
1911
Churchill is promoted First Lord of the Admiralty, where he undertakes sweeping reforms.

Resignation
1915
Churchill resigns from the cabinet following the Gallipoli campaign and rejoins the army. He would return to parliament the next year.

American Connection

Establishing the special relationship

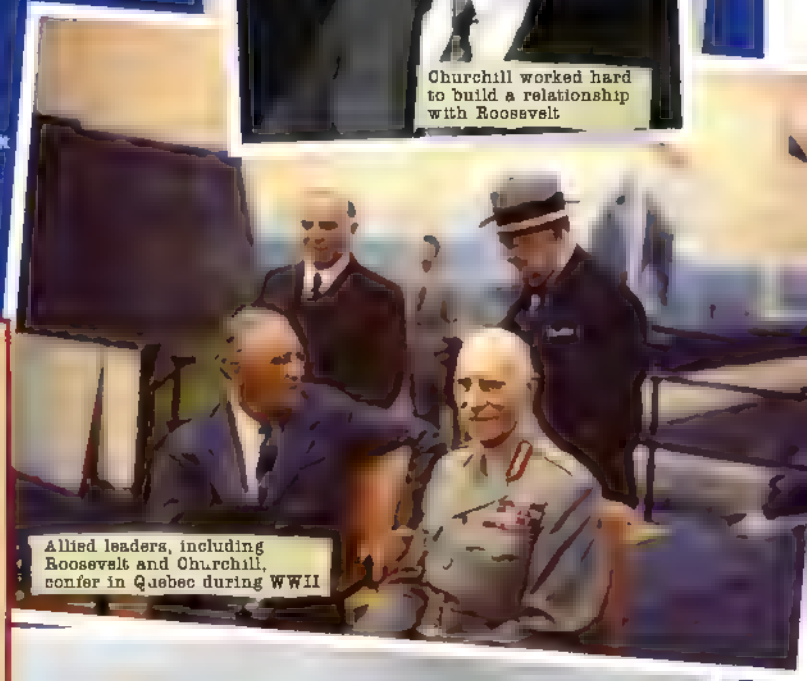
Churchill always had one eye on the United States of America, and through his American-born mother, the New York socialite and alleged inventor of the Manhattan cocktail Jennie Jerome, he had a trans-Atlantic connection that he would later play up to its full, with maternal ancestors who fought in the Revolutionary War against Britain, and even, according to family legend, some Native American blood.

Even as early in his career as 1903, he told the gathered occupants of the House of Commons, "I have always thought that it ought to be the main end of English statecraft to cultivate good relations with the United States," and his epic *A History Of The English Speaking Peoples*, which he started in 1937 and finally published well after World War II, seemed contrived to create a sense of kinship between the US and the British Commonwealth. In 1939, Churchill, in his capacity as First Lord of the Admiralty, began corresponding with President Theodore Roosevelt (who'd met him once before, having been told by his advisers that Churchill was a "drunk and a windbag") – who was determined to keep the US well out of any conflict. However, Churchill did have a role to play in not only bringing the US and UK closer together, but also in paving the way for a future conflict with Imperial Japan.

As of 1902, Britain had been allied with the newly modernised Japan in order to checkmate their shared rival Tsarist Russia and, renewed in 1905 and 1911, this treaty also entrusted the defence of Australia and New Zealand to the Japanese navy during World War I as to free up British ships for European combat. The 1921 Imperial Conference was called in part to negotiate their collective stance toward the United States and Japan, who many believed were on a collision course for dominance of the Pacific. Churchill attended in his capacity of Secretary of State for the Colonies, and the end result was to allow the Japanese alliance to lapse, in the hope of gaining American goodwill.

Japan's isolated position from the other world powers increased its belligerence, ending its participation in the Washington Naval Treaty that capped the size of battleships in 1936 and walking out of the League of Nations in 1933 over criticism of its annexation of Manchuria. "Japan is on the other end of the world," Churchill wrote in 1924. "She cannot menace our vital security." It seems optimistic, but undercutting Churchill's stance was the belief that there was nothing Japan could do without provoking a reaction from the United States. He was ultimately right, but proving it would cost many lives.

Churchill worked hard to build a relationship with Roosevelt



Allied leaders, including Roosevelt and Churchill, confer in Quebec during WWII

Future influence

Churchill worked the American connection hard in an attempt to build a close relationship but, nevertheless, soon after the outbreak of WWII Britain was isolated. However, when Pearl Harbour was attacked, Roosevelt was persuaded to adopt a 'Germany first' strategy to relieve Britain before they turned their full attention to Japan, a justification of Churchill's work before the war. The 'special relationship' has dominated Anglo-American foreign policy ever since.

The Washington Naval Treaty capped the size of battleships

1940

Election failure
1922
Fails to retain his seat in the general election and rejoins the Tories, saying, "anyone can rat, but it takes a certain ingenuity to re-rat."

Wilderness years
1929
With the Conservative government defeated in the General Election, he becomes estranged from the party and his 'wilderness years' begin.

Appeasement
1938
As Germany annexes Austria and overruns Czechoslovakia, Neville Chamberlain holds fast to his policy of appeasement, with Churchill a strong critic.

War cabinet
1939
War is declared and Churchill appointed First Lord of the Admiralty and a member of the War Cabinet, advocating a pre-emptive occupation of key ports.

Blood, sweat and tears
1940
Chamberlain resigns following the invasion of Norway, and Churchill is the agreed upon successor. He delivers his iconic 'blood, sweat and tears' speech.

then Italy at the expense of other theatres - to the irritation of both the USA and the USSR - was primarily to safeguard the Suez Canal, a vital artery of the Empire through which valuable raw materials from India to Britain were shipped, and protect the oil fields of Iraq and Persia.

Churchill's stubbornness, belligerence and refusal to negotiate under threat helped keep the Allies fighting in their dark days, but they would have been nothing without his innovative approach to military technology, which his entire life had shaped him for. Churchill may have been a poor student back when he was in short trousers, but he devoured Alfred Thayer Mahan's *The Influence Of Sea Power Upon History*, and told his mother in 1898 that, "Command of the sea is everything." Fittingly for such an absolute proclamation, when he was appointed as First Lord of The Admiralty in 1911, he went about perhaps the single most radical campaign of his career to date, the one that says the most about the kind of Prime Minister he would eventually become. Fearing growing German naval power, he immersed himself in naval lore and tactics.

It wasn't just the machinery and the rules of conflict that fascinated him, but the organisation, and he established a new Naval War Staff to co-ordinate strategy more fully with the government's War Office, much to the alarm of the high-ranking Sea Lords, who prized their independence - not that their opinions mattered much, and by the end of his first year in office he'd replaced three out of the four with more pliant figures. Churchill rolled out a new line of 'super dreadnaughts' - the largest warships ever built at the time - and began to explore the potential of submarines, launching planes from ships and switched the fleet from coal to oil powered which increased their speed and decreased the plumes of smoke which frequently betrayed their positions. He also threw his support, along with naval research funds, behind another promising new contraption - the tank, bizarrely considered a 'landship' and therefore falling under his remit.

It would be the possibilities of air power that stuck with him the most though, warning parliament in 1933, "Not to have an adequate air force in the present state of the world is to compromise the foundations of national freedom and independence." It is therefore no surprise that Churchill proved himself to be a talented leader of Britain's air force, and the thirst for new technology and tactics he showed throughout his life would lead him toward sponsoring such celebrated pieces of wartime ingenuity as the Bletchley Park code breakers and the birth of commando warfare.

Churchill's overthrow of the Sea Lords and his mission to bring the navy into a more central decision-making process was a dry run of sorts for his War Cabinet during WWII, in which he held the key positions of both Prime Minister and Minister of Defence, as well as his personal contact and sporadic micro-management of commanders in the field. This, along with his

A seven year old Winston Churchill poses for the camera

Churchill the war correspondent during the Boer War

Winston Churchill and German Emperor Wilhelm II in 1906

Churchill reviews an honour guard in Berlin, where he was attending the Potsdam Conference in 1945

A half length portrait of Winston Churchill in 1900, the year he first became an MP

Sir Winston, his son Randolph and grandson Winston

Churchill poses with an elephant he has shot

Churchill during a visit to Egypt in 1910

A year after being appointed First Lord of the Admiralty, Churchill meets with the Canadian Prime Minister

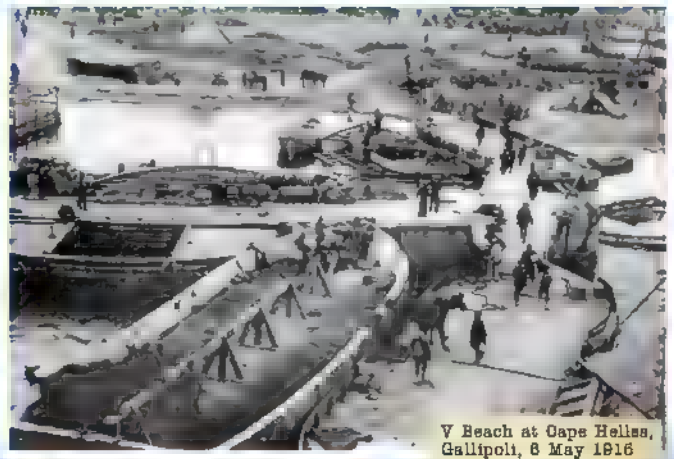
In 1904, Churchill left the Conservative party for the Liberals

Gallipoli

How Churchill recovered from disaster

Despite British naval supremacy, World War I had yet to see a decisive naval engagement when Churchill posited an ambitious plan to take the Dardanelles, the first of two channels through Ottoman Turkey (a German ally) that would link up France and Britain in the Mediterranean with Tsarist Russian in the Black Sea.

The plan was to have British and French warships simply charge through the Turkish blockade via sheer power, and then land troops (including many members of the Australia and New Zealand Army Corps, the ANZACs) at Gallipoli. The heavily mined coast and unexpectedly high number of gun emplacements took their toll on the attackers, and when the troops landed, they were largely unsupported by the panicked high command at sea, who refused to move to close to the shore. Early gains weren't followed up, allowing the Turkish forces time to reinforce their position, turning this hoped-for quick campaign into another entrenched slog, only up a cliff face instead of over a Belgian field. Between 25 April 1915 and 9 January 1916, 252,000 Allied soldiers were killed before evacuation and an Australian war reporter broke the censorship to smuggle out a damning report of the commander on the ground, General Hamilton. The problem was in the planning and the divided chain of command. Churchill, who insisted the Ottomans would crumble, and General Hamilton, who was slow to take the initiative, bore the brunt of the blame, both castigated in the press and forced from their positions, but others too should have been held to account, perhaps even more so – Admiral John de Robeck refused Churchill's order to bring his ships in and provide support, while military planners in London had cut the numbers of troops set aside for the mission.



V Beach at Cape Helles, Gallipoli, 6 May 1916

Future influence

Churchill's enthusiasm for decisive action (and greater control of the commanders in the field) was strengthened – something that would influence just how much responsibility he took on during WWII. Even if he did not deserve all of the blame he bore, the setback hardened his resolve to prove himself.

KEY
[Soldier] Battle
[Explosion] Bombardment
[Arrow] Movement

1. Bombardment of the Turkish positions
1 November 1914
Prior to the official declaration of war between Britain and Ottoman Turkey Allied warships begin bombarding the Turkish positions. The Ottomans add more underwater mines in the straits.

2. The Navy attempts to force the straits
18 March 1915
After further probing, Churchill's plan begins in earnest and a fleet of French and British warships attempt to 'force' the straight. With the mines proving difficult to clear, three vessels are sunk outright and one severely damaged. Admiral John de Robeck, much to the fury of Churchill, aborts the attack.

3. Landings at ANZAC Cove and Cape Helles
25 April 1915
Two divisions of the Australian and New Zealand Army Corps and a larger Allied force land on key points at the foot of the Gallipoli peninsula. The Cape Helles landings are mismanaged, and the Allied force suffers 6,500 casualties.

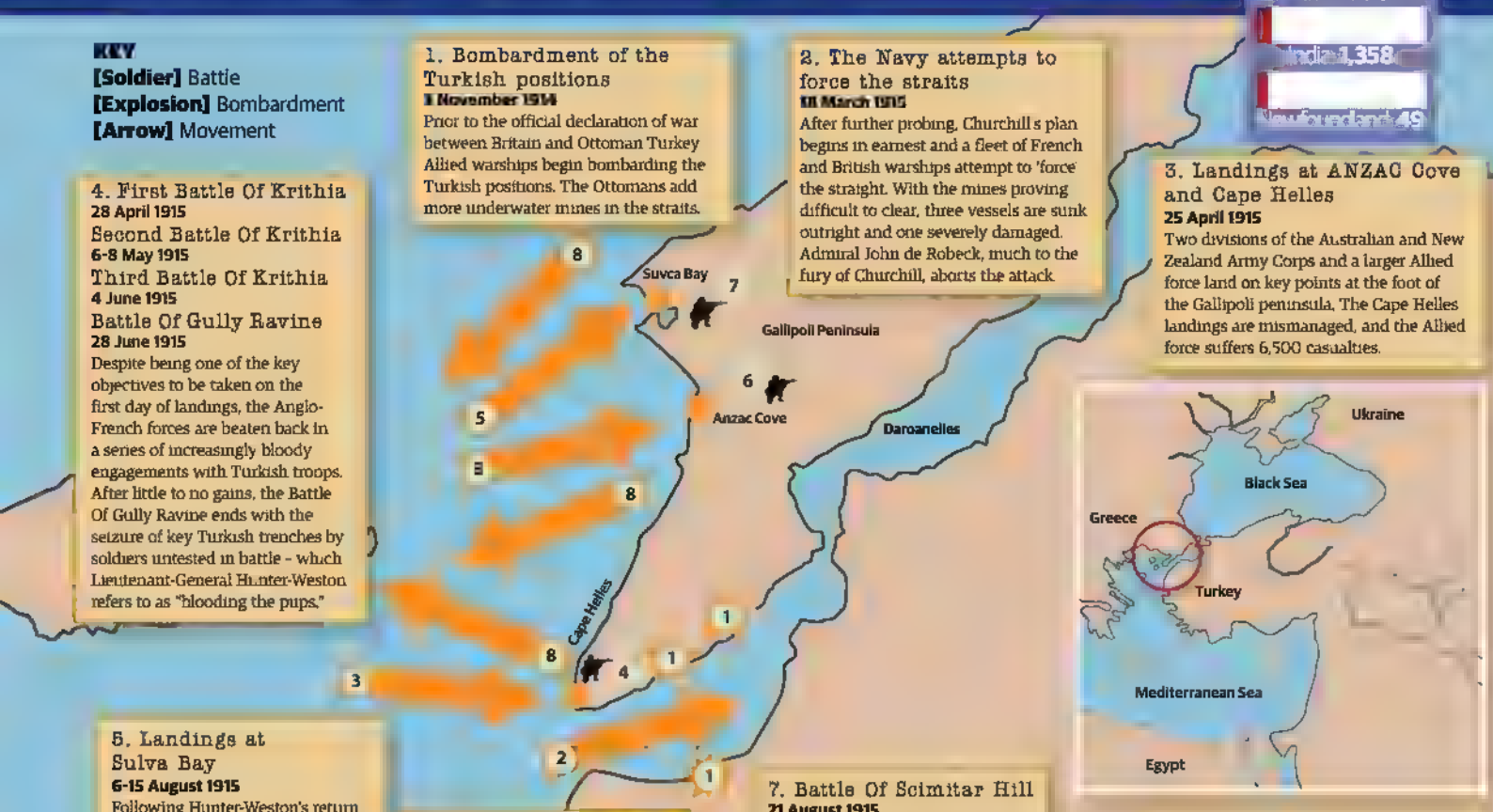
4. First Battle Of Krithia
28 April 1915
Second Battle Of Krithia
6-8 May 1915
Third Battle Of Krithia
4 June 1915
Battle Of Gully Ravine
28 June 1915
Despite being one of the key objectives to be taken on the first day of landings, the Anglo-French forces are beaten back in a series of increasingly bloody engagements with Turkish troops. After little to no gains, the Battle Of Gully Ravine ends with the seizure of key Turkish trenches by soldiers untested in battle – which Lieutenant-General Hunter-Weston refers to as "blooding the pups."

5. Landings at Suvla Bay
6-15 August 1915
Following Hunter-Weston's return to Britain following an unspecified illness, high command opts for a change in strategy and British soldiers land at Suvla Bay to link up with the ANZACs to the south for one final push. Landing at night, officers became lost and Turkish snipers picked off stragglers, and Suvla Bay becomes another dismal gridlock.

6. Battle Of Chunuk Bair
7-19 August 1915
An attempt to secure the summit of Chunuk Bair turns into an outright massacre as the British and New Zealand regiments get forced back to their original positions days later. The rocky hillside is impossible to dig into, making the attackers' early gains utterly untenable.

7. Battle Of Scimitar Hill
21 August 1915
The last offensive of the Gallipoli campaign and the largest so far, this all-or-nothing attempt to link up with ANZACs deteriorates into another bloody mess, with captured trenches almost immediately retaken by the Turks, and the death toll catastrophic. Of the 14,300 British soldiers that take part in the battle, 5,300 are killed or wounded.

8. Evacuation of Suvla Bay and ANZAC Cove
10-19 December 1915
Evacuation Of Cape Helles
10 December 1915 – 9 January 1916
With public opinion thoroughly against the campaign and damning reports in the Australian press, a harsh winter sets in, bringing frostbite and flooding as respite from the summer heat. Evacuation begins.



Churchill steps off his airplane in Berlin after the end of WWII

Churchill, with his Chiefs of Staff in the garden of No 10 Downing Street

Churchill inspects a British tank

Churchill at his seat in the Cabinet Room at No 10 Downing Street

© Alamy-Cathy Joe Cummings

"His bold – and often unrealistic – strategies would infuriate his commanders in WWII'

bold - and often unrealistic - strategies would infuriate his commanders in WWII as regularly as it did in the previous war. Captain Osmond de Beauvoir Brock, then the Assistant Director of Naval Mobilisation, observed of Churchill's appointment in 1911, "whether all his schemes are quite sound I shouldn't like to say but I do know that those which have come this way bear traces of great haste and little thought."

Perhaps influenced by the cavalry officer he once was, Churchill favoured bold, headline-grabbing actions that would decisively turn the tide of battle, and it was four years later in 1915 where he was knocked bloody-nosed from the saddle. The disastrous Gallipoli landings wound up as an inglorious failure, and he was ignominiously ousted from office, choosing to serve at the front to rehabilitate his reputation. His experience of the mud and squalor doubtless hardened his commitment further to grand strategies like Gallipoli, and in WWII he would drag his heels over an invasion of France, instead focusing on 'peripheral' campaigns, some successful and some every bit as ignominious.

To say Churchill was the right man at the right time sounds disingenuous, but it's tough to imagine that his indomitable strength of character, willingness to tightly grasp the reigns of power, sometimes cynical pragmatism, hawkish approach to foreign policy and fundamental belief in the primacy of the British Empire could be found in any other form. Churchill's career has more than its fair share of tragedies, missteps and moments of outright hypocrisy, but all of his past was little more than a canvas with which he would sketch out his future glory. Churchill at his worst could have been little better than the vicious tyrants he fought - a ferocious and fanatical defender of Britain's power and prestige - but the alchemy of circumstance made the most fantastic virtues of his vices, and by 1940 the world saw Churchill at his very best.

American President Harry Truman and Winston Churchill shake hands, 1946

VOYAGE OF THE BEAGLE

How the theory of evolution was formulated

Written by Jonathan Hatfull

It's difficult to match our popular image of Charles Darwin, a quiet thinker hiding from the controversy he had caused, with the young adventurer he became as the HMS Beagle steered the waters of South America and beyond. A more dramatic contrast still is with the state that he was in just days into the Beagle's five-year journey. Confined to his bed by violent seasickness as the ship was hurled around the waves of the Bay of Biscay, he was immobilised to such an extent that his crewmates, and even Darwin himself, thought that he would leave the ship at the first opportunity.

The naturalist would soon find his sea legs, however, and the discoveries that he made during that voyage would set him on the path to shattering many long-held beliefs of the scientific elite. His journey would be the seed from which his theory of evolution and natural selection grew; a theory that would change the way we saw our place in the world forever.

Darwin's presence on the Beagle and his emergence as a naturalist have their roots in happy accidents, the goodwill of friends, and Darwin's own amiable nature and desire to find his own place in the world. The ship was by no means chartered for Darwin's convenience. In the years following the Napoleonic wars, the British admiralty wanted no stone left unturned and, in an age where Britain was pushing the limits of its colonial expansion, the ship was, among other things, to be the first chartered exploration of the area using marine chronometers under the command of the hot-tempered Captain Fitzroy.

Fitzroy had a good reason for wanting a companion on board for such a long and arduous

"It became clear that Darwin was officially the ship's naturalist, setting him in opposition to the ship's surgeon, Robert McCormick"

How Darwin became the Beagle's naturalist

In the years before the voyage of the Beagle, the young Darwin was something of an aimless disappointment to his father, who had invested a great deal of money in his son. His scientific curiosity clashed with his interest in becoming a clergyman, so much so that he left Edinburgh University where he was studying medicine to study Divinity at Cambridge.

Although he might have been unsure about what exactly he wanted to do with his life, Darwin had a strong moral code that helped him to become a sensitive observer of human nature. His grandfather Josiah Wedgwood was a famous campaigner for the abolition of slavery and Darwin passionately believed in his family's work. He wrote often in his diaries from the Beagle about his shock and dismay at the treatment of the slaves and indentured workers he encountered in South America.

Darwin was offered the position on the Beagle after two men, Henyns and Jenslow, had decided not to take it. During his time at Cambridge he had made a name for himself as a good-natured and inquisitive fellow, and the two men decided to offer it to him. At this point Darwin was at a critical juncture in his life and he saw the proposed two year voyage as a chance prove himself and to find out what the life of a naturalist had to offer. His methods and deductions on the voyage were heavily influenced by the work of others but the time spent in the field alone would give him the confidence to strike out on his own.

CHARLES DARWIN

British, 1809-1882

Brief Bio

Following his time as the naturalist on the Beagle during its five year voyage, Charles Darwin's discoveries and theories on the nature of evolution and survival of the fittest would send shockwaves through the scientific community. The idea that God could be taken out of the equation saw the retiring man of science vilified and gloried.

THE VOYAGE OF THE BEAGLE

27th December, 1831
Plymouth, England
Darwin agrees to take the position of ship's captain's assistant but has to wait three months before the Beagle sets sail. The first week of the voyage would prove to be trying as he was confined to his bed with seasickness.
15th September - 20th October 1835
Galapagos Islands
Darwin was most fascinated by the enormous tortoises and iguanas that populated the islands. He wouldn't realise until later whenhe returned to England that the different species he saw were avtually specific to each island.
St Jago
16th January, 1832
Darwin overcomes his seasickness at the Cape Verde islands and realises what a fantastic opportunity the Beagle's voyage represented. His diary is filled with excitement as he sees many exotic vegetation and animals for the first time.
January-February 1835
Salvador, Brazil
29th February, 1832
The Beagle makes anchor in South America for the first time and Darwin sets his eyes on the rainforest. The sheer vastness of his mission was dawning upon him as he loaded up the Beagle with samples to be sent back to England.
Chiloé, Chile
Darwin's ideas expanding on Lyell's theory of an Earth in a constant state of movement were confirmed when he witnessed the massive eruption of Mount Osorno. It was a tremendous and moving sight.
3rd August, 1833
Darwin spent some of his happiest days exploring the wildlife of Argentina. At Rio Negro he rode with the gauchos, hunting for dinner and avoiding rebel forces. He was impressed by General de Rosas, who gave permission for Darwin's passage
Rio Negro, Argentina

voyage. His predecessor on the ship, Captain Stokes, had put a bullet in his head after two years on board and, with a history of mental illness in the family Fitzroy feared that he might be prone to the same dark impulses. He wasn't concerned so much with finding a brilliant scientist as someone who he could get along with, and the good-natured Darwin passed his compatibility test.

The two men would have their violent arguments (Darwin was appalled by Fitzroy's acceptance of slavery) and Fitzroy's fits of rage were a real concern as the Beagle was not a large vessel, measuring just 27 metres (90 feet) long. The captain warned Darwin that there would not be much in the way of personal space and the naturalist shared a room with two other men, moving drawers every night to fit into his bed. However, despite his initial struggles in bonding with the crew (Darwin realised that his schooling was not applicable to life on board a naval vessel and found himself the butt of several practical jokes), it was a more routine fact of life at sea that threatened to scupper Darwin's mission at the very first hurdle as his seasickness was so brutal.

By the time the Beagle reached St Jago (now Santiago) in Cape Verde Darwin had found, if not his sea legs, then at least his scientific curiosity. He was fully aware of what a huge opportunity the trip was and he was determined to make the most of it. There he saw tropical vegetation in its natural habitat for the first time and had his first experience with an octopus - he believed, incorrectly, that his discovery that they could glow in the dark was a new one. It was here that he began his exhaustive process of taking and cataloguing samples which, in addition to his diaries, would be essential in developing his theories on his return to England.

His collections were so extensive that it became clear that he was officially the ship's naturalist, setting him in opposition to the ship's surgeon Robert McCormick,

2nd October, 1836

Falmouth, England

The Beagle returns home after five years, and Darwin finds himself a celebrity. The samples that he has been sending home are waiting for further analysis and the Cambridge elite embrace him for his work exploring South America's geology.

12th January, 1836

Sydney, Australia

Darwin felt much more at home in Australia and made a note in his diary wondering how it was that the animals in Australia were so unique and unlike any in the rest of the world.

1st June, 1836

Cape Town, South Africa

As he observed the harsh desert outside of Cape Town, Darwin realised that an animal's size does not necessarily relate to the amount of sustenance it requires. Discussions of God's natural law took place over a dinner with fellow scientists.

December, 1832

Tierra del Fuego, Argentina

The Beagle returns three Fuegians to their tribe after Captain Fitzroy had removed them on his previous voyage. Darwin is struck by how their time spent among the crew and in English society has altered them.

"He began his exhaustive process of cataloguing samples, which in addition to his diaries, would be essential in developing his theories"

"Darwin's sense of discovery gave him the confidence to make some bold claims and suggest challenging ideas"

who was under the belief that he held the title. Consequently, McCormick left the Beagle at Rio, Brazil. It's worth noting that many of the men on the Beagle shared Darwin's interest in natural history and assisted him in his excavations, giving up the possibility to profit from their individual findings on their return. The young scientist's enthusiasm was contagious.

By the time McCormick left, Darwin was in his element, so much so that he quickly got over the news that his former sweetheart Fanny Owen was now engaged to be married. The rainforest was a goldmine and this sense of discovery gave him the confidence to make some bold claims and suggest some challenging ideas. In Argentina Darwin was awed by the dashing General Rosas and his gauchos, fighting a campaign against roving bands of rebel Indians. The General's men accompanied Darwin on his expeditions into the wild and the naturalist, who referred to himself as 'a great wanderer', got a taste of real danger as they avoided bands of marauders. The raised heart rate was worth it, as his findings demonstrated no sudden debacle' of extinction could have occurred. The fossils he attributed to the extinct giant sloth Megatherium looked strangely like an armadillo, and it was only when he returned to London that he understood he had found a creature at some point in between. This coincided with his efforts exploring the geology of the region, building on the work of Charles Lyell, who controversially believed that the earth was in a constant state of movement.

It wasn't all work, as Darwin managed to find time to join the gauchos in hunting ostriches for sport. In fact, he enjoyed hunting so much that he only realised that he had found a rare species of rhea that he was looking for while he was in the middle of eating it (the uncooked parts were sent back to England). He also continued to show his usefulness to the crew when he walked 20 miles ahead of his captain to bring back water to the stranded group on an attempt to reach the Andes, and shot a 170-pound guanaco for the group's 1833 Christmas lunch. Examination would come later; he was an adventurer on the trip of a lifetime.

It wasn't just geology or natural history that prompted Darwin to ponder the question of evolution and of nature vs nurture. The Beagle carried three Fuegians (indigenous inhabitants of Tierra del Fuego) that Fitzroy had taken a previous visit in 1830 to be examined by a phrenologist and shown as curiosities. Named Jemmy Button, York Minster and Fuegia Basket by the crew, the three were to be returned home with a priest named Richard Matthews, who would establish a mission on their island. During the course of their time on the Beagle and in England, all three had substantially adjusted their behaviour and appearance and it was unclear exactly how well they would be received by the island's inhabitants.

As the Beagle drew closer to their island, Darwin observed the tribesmen who watched them pass. He wrote about the men who lit torches and ran alongside the coastline, remarking on their savagery. When the crew of the Beagle reintroduced the three Fuegians to their fellow islanders, Darwin was instantly struck by how much their time away had set them apart from their tribesmen. York Minster exhibited scorn for his fellows, while Jemmy Button was notably uncomfortable. The atmosphere was not a pleasant one, but Fitzroy decided that Matthews' mission should go ahead and left him with sufficient supplies before sailing away. When the Beagle returned some months later they found that Jemmy Button was struggling to reintegrate, while Matthews reappeared when he ran screaming for the boat. His mission was abandoned. Darwin did not believe that the British sailors and the Fuegian tribesmen belonged to different species, but this incident helped to show him the real extent to which our environments can shape us.

THE ANIMALS THAT INSPIRED DARWIN

Giant tortoise

Darwin was too caught up in observing the tortoises' behaviour and collecting samples (as well as seeing what they tasted like) to realise that the different animals he was observing were specific to each island. The giant lumbering creatures reminded Darwin of a prehistoric land, and he marvelled at their disinterest in the human visitors. It was Nicholas Lawson, the acting governor of the Galapagos, who told Darwin that the tortoises of each island had their own patterned shells.

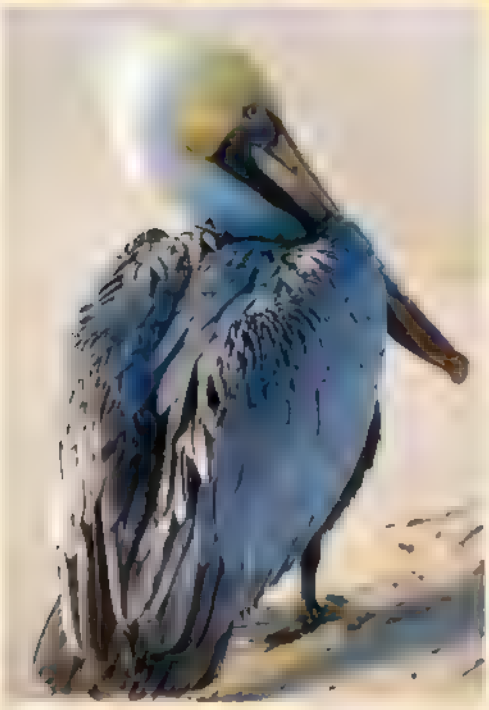
Finch

When Darwin was collecting finches in the Galapagos Islands, he had no idea that the different species he was finding were from individual islands. Observing the small differences in his samples, he began to realise that it was possible that the different species must have shared one common ancestor before adapting to their surroundings. The Galapagos finches would prompt Darwin's theory of natural selection, with more than 13 different species being derived from just one breed

Megatherium

Darwin found many skeletons of what he assumed belonged to the Megatherium species (a huge long-extinct sloth-like creature) during his travels in South America but he noticed several important differences. For example, an early find had a shell not unlike an armadillo's. The idea that the species had been rendered extinct by a single catastrophic event became increasingly implausible, and Darwin began to come around to the idea of the 'law of succession of types'

'Dragon Hill' in Santa Cruz, the Galapagos Islands



A land iguana from the Galapagos Islands

"Darwin felt that he was reaching out and touching the prehistoric with his own hands"

The Beagle sailed on for Chile where the expedition was nearly done for. Darwin enjoyed a break from his work in Santiago with some expatriate Britons but became violently ill on the return trip to Valparaiso due to 'sour wine' and Fitzroy tumbled into depression when the admiralty refused to pay for a second boat he had bought out of his own pocket. It looked as though the Beagle might be heading home, but the crew calmed Fitzroy and the astonishing sight of an erupting volcano made it clear their exploration must continue. The beginning of 1835 saw a series of devastating earthquakes and volcanic eruptions that allowed Darwin to witness the earth's movements first hand. He saw just how much the landscape could change in one day and the devastation that can happen in an instant.

Having observed the changed sea level at the beach in Concepción Harbour, Darwin theorised that forces under the Earth's crust would lead to earthquakes if they erupted under the surface with no means of escape. He improved on Lyell's notion by suggesting that every volcanic event was interconnected, which led to him making somewhat doom-laden predictions about what would happen if such a powerful eruption took place in England.

The Beagle then sailed on to the Galapagos Islands, the site of Darwin's most famous discovery, although he didn't realise it at the time. Following the eruptions, Darwin was interested in the volcanic landscape of the region and did not stop to think that the different species of finch he was cataloguing were specific to their own islands. He was fascinated by the tortoises and iguanas, which he saw as resembling 'the inhabitants of some other planet'. Here he was reaching out and touching the prehistoric with his own hands.

The final stops on the Beagle's voyage were less concerned with nature than with humanity as Darwin and Fitzroy visited missions, although he was stunned by the beauty of the coral reefs off the coast of Australia. His diary entries are filled with homesickness, and it was with great relief that Darwin returned to England in October 1836. It had been a tremendous adventure, but Darwin's journey had only just begun – his view of the world had been changed. He did not yet realise that he would change the view the world had of itself.

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HARALD HARDRADA

Norwegian, 1015 CE-1066 CE

Brief Bio

Born Harald Sigurdsson, Harald Hardrada was king of Norway from 1045 until his death at the Battle of Stamford Bridge in 1066. Son of Sigurd Syr, a chieftain from Norway's eastern territories, Hardrada garnered the nickname 'Harald the Ruthless' due to a series of brutal raids on his neighbouring territories.

The Last Viking King

With the Viking Age setting in the west, one man set out to reclaim the lands, power and culture of his forefathers. His name was Harald Hardrada, and this is his story

Written by Robert Jones

Conqueror, exile, mercenary and warlord, Harald Hardrada was many things during his bloody, brutal and eventful life. However, he was one thing above all others: a Viking. Descended, according to Scandinavian saga, from the legendary first ever king of Norway, Harald Fairhair, Hardrada – named due to his style for 'hard rule' – came from a long line of war-loving Viking rulers who each, much to the terror of large swathes of Europe, had ravaged, pillaged and ransacked with a frequency that was previously unimaginable. The culture, landscape and language of Europe had irrevocably been altered by the Age of the Vikings, and Hardrada, born into one of its noble institutions, was brought up to be totally wrapped in its ideals and indoctrinated into a mindset the likes of which had seen the nations of Scandinavia dominate the known world for almost 300 years.

It was this in-built, centuries-old lust for war and conquest that saw Hardrada engage in his first ever battle in 1030 CE, a mere 15 years after his birth in Ringerike, Norway. Hardrada's brother Olaf Haraldsson had been forced into exile in 1028 CE after the Danish King Cnut the Great had taken the Norwegian throne for himself. However, upon Olaf's return in 1030 CE, Hardrada drummed up the support of 600 men from the Norwegian Uplands and joined with Olaf to take down Cnut. As such, on 29 July 1030 CE Hardrada took the fight to the Danish at the Battle of Stiklestad, fighting with his brother for control of his ancestors' country. Unfortunately, despite showing considerable military might on the battlefield, Hardrada was defeated by the far larger Danish army, with Olaf being killed in the fighting.

Hardrada barely escaped with his life, having been badly wounded in the melee. In fact, were it not for the covert help of his friend Rögnvald Brusason – the future Earl of Orkney – Hardrada would never have reached the remote farmstead in eastern Norway that he did a few weeks after the battle, nor been able to recover from his serious wounds. A month went by, and with each passing day the reality of what had occurred became all the more apparent to Hardrada. He had let down his brother, father, nation and revered forefathers. He had been defeated at the first hurdle, part-crippled by a foreign invader that remained in control of his country. Unable to bear the guilt any longer, one month after his defeat Hardrada exiled himself to Sweden, journeying north over the mountains by the cover of darkness.

Over the following year little is known of Hardrada's movements or activities, with not even the sagas of old recalling what transpired. All that is known today is that almost a year to the day after

Viking weapons

Battleaxe

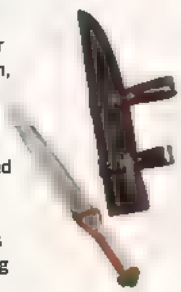
The axe was the primary weapon for all the Scandinavian cultures of the Viking Age, with a multitude of designs used between nations with differing shafts and heads. One of the most popular designs was the Daneaxe, a large two-handed weapon with long shaft and crescent-shaped wrought iron head. Often the axe head would be granted a steel cutting edge, a factor that helped it generate skull-splitting force.

Sword

If a Viking carried a sword then it would be his primary weapon. The problem was that swords were more expensive to produce than axes, and so were only carried by the rich and powerful. Viking swords were 90 centimetres in length and took a Roman spatha-like design, with a tight grip, long fuller and no pronounced cross-guard. Hilts and handles were often inlaid with jewels or inscriptions.

Dagger

The standard secondary weapon for each Viking warrior, the dagger was an incredibly versatile weapon, granting an element of speed to the Viking's otherwise slow armament. In particular, the seax was a popular model that consisted of a symmetrical straight blade of various lengths with a smooth, wooden hilt. Seax daggers such as this could also be used for skinning animals and carving.



War of words

While it is true that Hardrada's reign was characterised by raiding, war and blood, he was also reportedly a sound diplomat and economist, and used his skills to bring a period of stability to Norway when much of Scandinavia was in turmoil. Two of the most notable examples of the king's ability to expand his empire by words rather than axe are, firstly, his arrangement of new international trade routes and deals – a decision that brought in much wealth to Norway, with deals struck with the Kievan Rus and the vast Byzantine Empire – and, secondly, his dissemination of Christianity throughout the lands of Norway. Indeed, Hardrada had been converted early to Christianity, and upon becoming king of Norway he implemented many policies geared towards promoting it – be that through direct communication or via the construction of churches and the reparation of existing ones.

his defeat at Stiklestad, Hardrada arrived in the town of Staraya Ladoga in the Kievan Rus region of north-eastern Europe. The Kievan people were a wild bunch of Slavic tribes renowned for their hardiness, combat prowess and expertise in trade, with their geographical position placing them very much at the gates between the largely Byzantine-controlled east and the Scandinavian-occupied west. So when Hardrada emerged from the wilderness in 1031 CE, his ancestry and prowess in combat saw him warmly welcomed by the Rus' ruler Grand Prince Yaroslav the Wise whose wife Ingegerd was a distant relative of his.

Badly in need of military commanders and recognising Harald's ability in combat, Yaroslav immediately made Hardrada leader of his forces and dispatched him to the western border to fight the Polish peoples at war with the Rus. The faith Yaroslav placed in Harald's breeding was well founded, with the warrior completing a crushing campaign against Poland, slaughtering hundreds and thousands of Poles and driving them back into their country's distant heartlands. Following this victory, Yaroslav left Hardrada to engage the Chude peoples of Estonia and the Pechenegs nomads that had been fighting on and off with the Rus for decades, with similarly and horrific results. Hardrada was reportedly demonic on the battlefield, driven by some seemingly unnatural force in a pursuit of his enemy's blood, transcending into a berserker state that no man could oppose.

These victories for the Rus saw Hardrada gain a fearsome reputation, with a band of 500 men pledging their loyalty to him. Hardrada and his band of mercenary warriors were now the most feared fighting force in Europe and, after securing the Kievan territories in 1033 CE, they set off in a quest for fame and riches heading south to Constantinople, the capital city of the fabulously wealthy Byzantine Empire. Arriving there in 1034 CE and immediately introducing himself to the Byzantine Emperor Michael IV, Hardrada and his men were immediately employed in

Viking longships were light and manoeuvrable, and could reach a speed of up to 15 knots

Prince of plunder

The lands that felt Hardrada's wrath first hand

Denmark
Once made King of Norway, Hardrada wished to re-establish his nephew's rule of Denmark, taking the control of the country back from Sweyn Estridsson. As such, starting in 1048 CE, Hardrada led a vast plunder of Jutland and then in 1049 CE a pillaging and burning of Hedeby, at the time the most important Danish trade centre
Estonia
Another land of choice for Hardrada's penchant for pillage was Estonia, with his youthful affiliation to the Kievan Rus naturally putting him at odds with their enemies the Chudes. As such, in 1032 and 1033 CE Hardrada became the scourge of Estonia and some parts of modern-day Finland, becoming rich from a series of death-dealing raids
Britain
Prior to dying on the green and pleasant land of England, Hardrada and his fellow lords made numerous raiding excursions on the nation's shores, pillaging and burning towns along its north eastern coast with high frequency. Under Hardrada's orders, the islands of Orkney, Shetland and the Hebrides were added to Norway's empire.
Poland
After being forced into exile after the Battle of Stiklestad and adopted by the peoples of the Kievan Rus, Harald undertook a series of raids against the Polish peoples of central Europe through 1030 to 1031 CE, burning villages, raping their inhabitants and plundering them of all their worldly possessions.

Three ruthless victories

Asia Minor campaign
1035 CE

Following his joining of the Byzantine Varangian Guard, Hardrada was dispatched to Asia Minor to put down a widespread piratical Arab uprising. A series of running battles continued in which Harald pushed the Arab forces back into mainland Asia. Following this initial success, Hardrada led a search and destroy operation deep into the Asia Minor, slaughtering thousands and taking over 80 Arab strongholds.

Battle of Ostrovo
1041 CE

While the leader of the Varangian Guard, Hardrada led the Byzantine forces against a Bulgarian army in Greece. In 1040 Peter Delyan, a native Bulgarian, led an uprising against Byzantine rule and declared himself king. Hardrada killed his foe, crushed his forces in battle and re-suppressed Bulgaria to such an extent that it remained under Byzantine rule for another 145 years.

Battle of Fulford
20 September 1066 CE

Hardrada's last great victory, the Battle of Fulford saw him land in England and defeat northern Earls Edwin and Morcar of York in a battle involving over 15,000 soldiers. Harald's tactical masterstroke was positioning his troops so that he could absorb the heavy English infantry charge before countering down his right flank and breaking the enemy's lines. This victory won him the city of York.

the Emperor's Varangian Guard, an elite fighting force controlled directly by the ruler. In theory, the Varangian Guard were supposed to simply protect the Emperor, but due to Hardrada's desire for battle he was soon fighting on almost every front of the empire.

From Arab pirates in the Mediterranean to rebel forces amassed in Sicily and onto Arab strongholds throughout Asia Minor, Hardrada became the scourge of any Byzantine enemy. He was deployed like a rampaging bull on the battlefield, one that could seemingly not be killed in combat no matter how far the odds were stacked in his opponents' favour. Returning back to Constantinople in 1041, Hardrada was now famed not just for his battle prowess, but also for his immense wealth, with almost seven years worth of plunder being amassed into a vast fortune that rivalled that of many kings. Indeed, Hardrada had raided so much that he had to send large portions of his loot back to Yaroslav for safe keeping – no boat was capable of carrying the sheer weight of the bountiful precious metals and jewels.

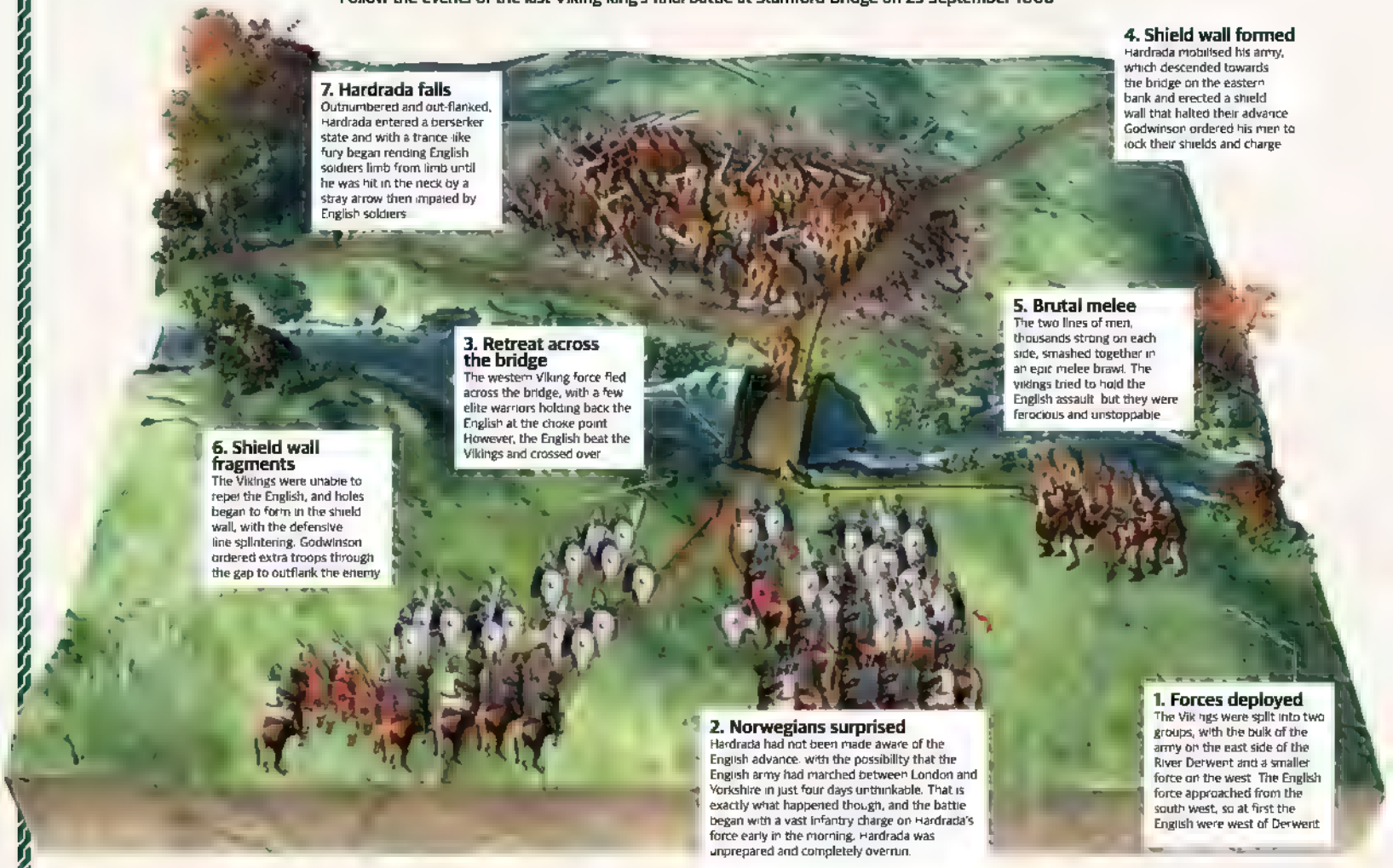
While Hardrada's position under the Byzantine Emperor Michael IV was unassailable, with the Varangian Viking chief being highly praised for his deeds, upon the Emperor's death in December of 1041 CE he quickly fell out of favour, becoming caught up in the middle of a war of succession. Realising that his position was never going to be same again, Hardrada escaped a now turbulent Constantinople just months later, returning by boat through the Black Sea to the Kievan Rus. Upon returning to a rapturous welcome from Yaroslav, Hardrada promptly married the latter's daughter Ellisif and, for a short time, settled down in Kievan capital, engaging in little combat and remaining in the Rus for a further three years.

> "He entered a berserker state, and with a trance-like fury began rending English soldiers limb from limb"

However, as the days and years dripped by Hardrada was still tormented by his defeat at Stiklestad. He hadn't set foot in his native Norway for almost 15 years and, despite his vast riches and subsequent victories, was haunted by the legacy left to him by his ancestors. Norway, he decided, must be returned once more to Norwegian hands. Setting forth from Novgorod in early 1045 CE, Hardrada journeyed back to the country of his birth, arriving in Sweden once more later on in the year. Here, Hardrada received excellent news: Norway was already back in Norwegian hands, with the illegitimate son of Olaf, Magnus the Good, sitting securely on the throne. Apparently, Cnut the Great's sons had

hardrada's last hurrah

Follow the events of the last Viking king's final battle at Stamford Bridge on 25 September 1066



7. Hardrada falls
Outnumbered and out-flanked, Hardrada entered a berserker state and with a trance-like fury began rending English soldiers limb from limb until he was hit in the neck by a stray arrow then impaled by English soldiers

4. Shield wall formed
Hardrada mobilised his army, which descended towards the bridge on the eastern bank and erected a shield wall that halted their advance Godwinson ordered his men to lock their shields and charge

5. Brutal melee
The two lines of men, thousands strong on each side, smashed together in an epic melee brawl. The vikings tried to hold the English assault but they were ferocious and unstoppable

3. Retreat across the bridge
The western Viking force fled across the bridge, with a few elite warriors holding back the English at the choke point However, the English beat the Vikings and crossed over

6. Shield wall fragments
The Vikings were unable to repel the English, and holes began to form in the shield wall, with the defensive line splintering. Godwinson ordered extra troops through the gap to outflank the enemy

2. Norwegians surprised
Hardrada had not been made aware of the English advance. with the possibility that the English army had marched between London and Yorkshire in just four days unthinkable. That is exactly what happened though, and the battle began with a vast infantry charge on Hardrada's force early in the morning. Hardrada was unprepared and completely overrun.

1. Forces deployed
The Vik ngs were split into two groups, with the bulk of the army on the east side of the River Derwent and a smaller force on the west The English force approached from the south west, so at first the English were west of Derwent

life after harold

Despite a succession of other Norwegian and Scandinavian kings following Hardrada's death, none of them truly had Viking in the blood, and the Viking Age ended as abruptly as it begun 300 years previously. Far from the war-loving, plundering and raiding mentality that won the Vikings almost all of northern Europe and 300 years of world history, these successors had neither the will nor the military might to maintain the Viking Age and their way of life with Scandinavian influence subsiding, and gradually becoming subsumed into wider European culture over the following decades.

For example, Hardrada's successor was Magnus Haraldsson, who was left King regent upon Harold's departure for England. However, after only reigning for three peaceful and uneventful years, he died of ringworm, leaving his brother Olaf III to take the crown, who proceeded to rule Norway till his death in 1093. However, while his rule was long, it was not Viking, with the king renouncing any offensive foreign policies and diverting funds to the defence of Norwegian borders. This pattern of defensive and peaceful ruler continued, with the only combat experienced being that of the civil wars of the 12th and 13th centuries.

The domination of Viking culture had come crashing down with Hardrada's defeat at Stamford Bridge and Europe was now entering a new, more peaceful and civilised age. For Hardrada, in his last glorious stand, had being fighting on the razor's edge of a more savage time, one that saw the lands, language and laws of Europe changed forever. The last true Viking king was dead, and with him, so too the Viking Age.

abandoned Hardrada's much-loved Norway, and were currently fighting for control of England.

Hardrada set off immediately to Norway and, after arriving in 1046 CE and negotiating with Magnus directly, struck a deal that he would joint rule the country in exchange for half of his immense wealth. For the next two years, both Magnus and Harald ruled Norway, holding separate courts and rarely meeting. Hardrada now had everything he could want, owning much land, ruling his country and being fabulously wealthy too. However, after two years of supposedly living an ideal life, the Viking blood within Hardrada's veins called once more, leading him into a campaign of revenge against Denmark for the death of his brother and the pillaging of his ancestral lands. As such, in 1048 CE Hardrada plundered Jutland, pillaged and burned Hedeby – the most important Danish trade centre in the entire country – and launched a colossal naval assault on the Danish royal pretender Sweyn Estridsson. This battle was the infamous Battle of Nisa, and saw Hardrada lead 300 ships against Sweyn in a conflict that left many ships on both sides 'empty'.

Despite defeating Sweyn at Nisa and successfully launching multiple Viking raids on Denmark over the next six years, Hardrada never did take the Danish throne, and due to lack of finance was forced to begrudgingly declare peace with him in 1064 CE. Now recognising that he would never reclaim the Danish throne as his own, Hardrada shifted his attentions towards another rich and historic land: England. England had been controlled by Cnut the Great's son Harthacnut until 1042, when he died childless. As such, Edward the Confessor had crowned himself king in his absence and proceeded to rule the island nation for over 20 years. When Hardrada heard in early 1066 CE that Edward had died on 5 January, he immediately decided to launch one more glorious Viking conquest. Now 50, Hardrada mush have knew that his time on Earth was coming to an end and, before he passed on to the afterlife to meet his hallowed ancestors, he needed to succumb once more to the call of his blood.

For the native English who witnessed the approach of 300 longships and 15,000 men on 8 September 1066 CE in north-east England, it must have felt like observing the coming of the apocalypse. The force was one of the greatest Viking armies ever to be assembled, and if unopposed would bring the nation to its knees. Stepping forth on English soil, Hardrada could taste the coming war, and after just 12 days he was not to be disappointed, with a 5,000-strong subsidiary English force crushed at the Battle of Fulford – see the 'Three ruthless victories' boxout for more information. Striding through the English dead, finally back in his element after years of inactivity and luxury, little did Hardrada know that this was to be his last victory. Just five days later, his army was surprised by the fierce force of the now English King Harold Godwinson, who marched over 180 miles in four days to meet with the Viking warlord at the Battle of Stamford Bridge. It was a battle that would end Hardrada – for a step-by-step account of the battle, please see the 'Hardrada's last hurrah' boxout – and, as history shows, have a profound effect on the course of England and Europe going forward.

> "Hardrada was demonic on the battlefield, driven by some seemingly unnatural force in a pursuit of his enemy's blood"

Mere weeks after defeating Hardrada at Stamford Bridge, Godwinson himself would too be defeated by the Norman prince William, in large part due to troop exhaustion from the combat and enforced marching too and from York. As such, William became William the Conqueror, and instigated a centuries-long period of Norman rule over England, radically transforming its economy, language, architecture, law and education. Indeed, by the time the Norman presence in England had dissipated, the medieval age had long since transformed into the Renaissance, and its new, intoxicating culture, religion and science had swept away much of Europe's once-strong Viking presence.

When Harald Hardrada fell on the battlefield in England, it was more than just the flame of one great life being extinguished; it would prove to be the death of the last Viking warrior king.

Hardrada's lineage

Great great grandfather
Harald Fairhair
850 – 932 CE
Noted by many historians to be the first King of Norway, Fairhair became a legendary figure during the Viking Age, with his deeds relayed in numerous epic sagas. He supposedly won many battles against Norwegian opponents on his way to becoming the country's ruler, and famously had anywhere between 11 to 20 sons.

Great grandfather/grandfather
Halfdan Sigurdsson of Hadafylke
935 – 995 CE
Little is known about Hardrada's grandfather, other than that he was supposedly Halfdan Sigurdsson, the alleged son of King Sigurd Hrise of Norway, Hardrada's great grandfather. Both Hrise's and Halfdan's lineage is unconfirmed, with only information as passed down from Icelandic sagas mentioning their link to Harald

Father - Sigurd Syr
970 – 1018 CE
According to Icelandic sagas, Syr was a prudent and modest man who was known for hands-on approach to the management of his lands and properties. Records also indicate that he was a wealthy man, and that in 998 CE, chose to be baptised with his wife into the Christian faith.

Nephew - Magnus Olafsson
1024 CE – 1047 CE
At times both King of Norway and King of Denmark, Hardrada's nephew Magnus garnered the nickname 'Magnus the Good'. He was crowned King of Norway at 11 and King of Denmark at 18, ruling both lands until his mysterious death aged 23. Upon his death the kingdoms were split, with Hardrada taking the Norwegian crown, and Sweyn Estridsson the Danish Crown

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HISTORY OF AVIATION

From the ambitious dreams of the Wright brothers, to the glory of supersonic flight – discover the story of man's conquest of the skies

Written by Chris Fenton

Pioneering age

Adventure and glory awaited the brave pioneers during the early years of aviation

1903

Wright Flyer

The Wright Flyer was as much a moral triumph as it was a triumph of aerial engineering. There had been countless failures, crashes and accidents resulting in near death before Orville Wright's successful flight on December 17 1903. The first flight ended in failure, as a problem with one of the Flyers' elevators sent it crashing into the sand around the takeoff zone. The brothers persevered though and finally the rudimentary pusher engine, the huge wingspan and the pulley system the flyer sat on – which was designed to overcome the power-to-weight problem – all worked perfectly. The result was the first powered flight and landing of an aircraft.

The Wright Flyer was first demonstrated in total secrecy

1909

Bleriot XI

The Wright Flyer may have proved it was possible for an aircraft that was 'heavier than air' to fly, but it was the Bleriot Flyer that showed that air travel was a viable form of transportation. The Bleriot XI was the first plane to fly across the English Channel in 1909. As the *Daily Express* newspaper commented: 'Britain is no longer an island.'

1925

Curtiss flying boat

While the design for the first flying boat looked ungainly, Glen H Curtiss' pusher proved to be a success, enabling the pilot to take off and land from the ocean.

1928

Page H.P.42

Based on the designs of World War I bombers, the Page was big, ugly and slow because of the drag it produced. It did offer its passengers a reasonably safe ride though.

1928

Ford 5-AT Tri-Motor

The first true airliner, big enough inside for rudimentary luxuries, was fast and reasonably safe. Crucially, it could also be mass-produced

Brief Bio

LOUIS BLERIOT

French 1872-1936

Louis Bleriot rose to prominence in the automobile industry but nearly bankrupt his money after his initial failure to break into the aviation industry. His designs did not achieve the recognition he craved, but he deserved credit for making a great breakthrough with his Bleriot XI flyer that crossed the English Channel in 1909, winning the *Daily Mail* English Channel challenge. His hundredth flight was topped flying altogether and founded the SPAD aviation company, which made aircraft for the French military during World War I.

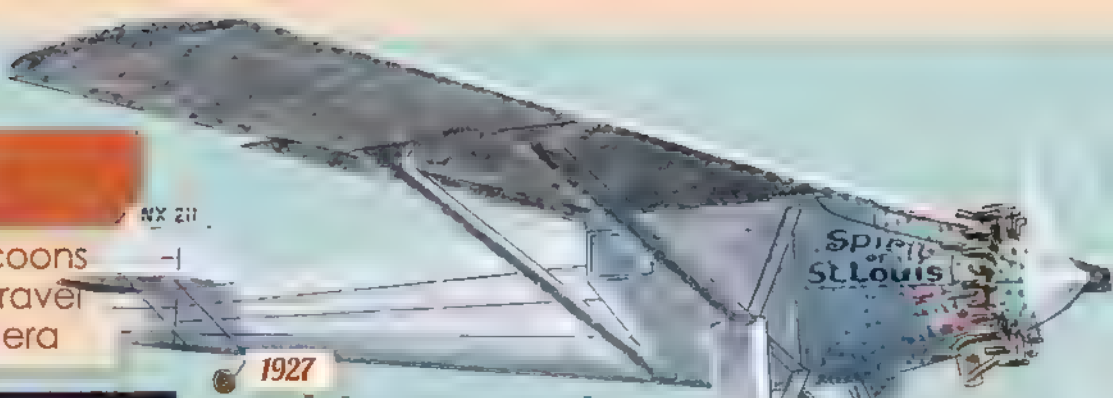
When the Wright brothers made their first successful 'heavier than air' flight in 1903 in their Wright Flyer, they were keenly aware that they had invented a machine that would change the face of the earth forever. The brothers flew their craft in absolute secrecy barring a few select witnesses who could testify that they'd done it. Orville Wright said afterwards: "It was only a flight of 12 seconds, it was uncertain, wavy, creeping, but it was a real flight at last and not a glide." They knew the great potential of their new contraption. The problem was, no one else did. To the public at large flight was in the purview of socially awkward inventors and university professors, not on the horizon of wider society. The great breakthroughs made during this tenuous pioneering period were ground-breaking: man could now fly in the Wright brother's Flyer, he could fly over the English Channel on a mono-wing with the Bleriot IX and he could even sail and fly at the same time with Glenn H. Curtiss' new water craft. But these contraptions were little more than unreliable, flimsy experiments; good for the inventors who professed that it could be done, but good for little more than this. Until 1914 there simply wasn't the pioneering spirit outside of the brave experiments of Wright and Bleriot for serious attention to be given to flight.

"As the memories of World War I slowly ebbed away into the new hope of the roaring Twenties, pilots started to break records"

The horrors of World War I changed this niche status. War gave inventors the opportunity they needed to bring their designs to the attention of powerful men. With the resources of industrialised nations preparing for war, the gentlemen flyers were given the time and money they needed to truly get off the ground. Terrible weapons were invented and the war brought the concept of the aerial bomber capable of levelling cities and ever-faster single-seat fighters that filled the skies with deadly dogfights. As the war drew to its catastrophic conclusion, the aircraft of the early 1900s bore little resemblance to the reliable, skinned war birds of 1918. Man could now fly into the heavens and have a reasonable expectation that he would make it back to earth in one piece. Budding entrepreneurs saw these developments and were impressed. During the war, planes were used to transport goods and people around the battlefields of Europe, why couldn't they be used

Golden age

Record-breakers, pilot tycoons and truly luxurious aerial travel exemplified the golden era



1927

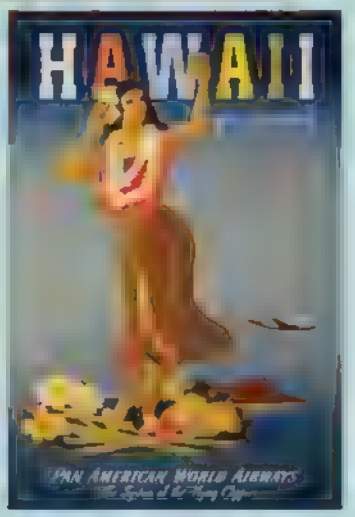
Spirit of St Louis

The Spirit of St Louis was the first plane to cross the Atlantic nonstop. Taking off in New York it arrived in Paris 33 hours and 30 minutes later flown by aviation pioneer Charles Lindbergh.

1927

Pan Am

Pan Am, or Pan-American Airlines, offered non-stop luxurious flying boat services to the exotic Pacific and Far East during the Twenties and Thirties. The airline started out in the freight industry, offering a mail service from America to the Caribbean. The company then branched out to offer passenger routes to the Caribbean, Cuba and the paradise locations of Hawaii and the Philippines. The airline was renowned for the destinations it would fly to, even offering a service to Hong Kong, opening the wonders of the Far East.



Flying boat

Imperial Airways, later to be known as British Airways, offered comfort and style. Initially offering its services as a carrier for colonial officials in the ugly but reliable Page H.P.42, the airline quickly grew to accommodate civil passengers flying to exotic destinations. Part of the appeal of flying 'imperial' was its safety record – the planes were reliable and dependable in the air

Brief Bio

HOWARD HUGHES

American, 1905–1976

The pioneering millionaire aviator, engineer, designer and test pilot of the aviation industry during the golden age of flight. He was well known for his eccentric and reclusive lifestyle, designing his Hughes H-1 Racer to be the fastest aircraft on earth and then he used his fortune to be the largest shareholder in Trans World Airlines. He broke numerous aviation records including around the world flight which he completed in four days, 14 hours, 14 minutes. He returned to New York ahead of the photographers covering the event. In 1938

Hughes H-1 Racer

Howard Hughes, the eccentric legend whose millionaire status meant that he could afford to design and build aircraft, designed the Hughes racer. His H-1 Racer epitomised this wealth and pioneering spirit and it was designed to do just one thing: be the fastest man-made aircraft on the planet.

It was Hughes himself who was at the controls of the racer when he broke the speed record in 1935. In the attempt he even flew the plane until it ran out of petrol, resulting in him having to make an emergency landing. There was little apparent damage to the aircraft and he was reported to say as he emerged from the scene: "We can fix her, she'll go faster!"

The H-1 Racer was designed to be the fastest in the world

"The answer to convince people to use air travel was found in its appeal – the dream of flight"

in the same way during the new peace? What's more the designs currently in circulation could easily be modified to create passenger planes. However, the ungainly results were for practical uses only. Converted military bomber designs such as the Page H.P.42 offered few luxuries apart from the bonus that it no longer took colonial officials weeks to get anywhere in their vast empires. Ferrying around the masters of Europe kept fledgling aviation businesses like Imperial Airways (later British Airways) afloat, but it didn't make them the super corporations we know them to be today.

As the memories of World War I slowly ebbed away into the new hope of the roaring twenties, pilots started to break records once again. There were air speed records broken by Jimmy Doolittle in the Curtiss R3C-2 racer and by the millionaire Howard Hughes in his H-1 Racer at 245mph and 352 mph respectively. Charles Lindbergh broke distance records across the Atlantic ocean in the elegant Spirit of St Louis in 1927. In 1933 the eccentric one-eyed pilot Wiley Post flew his Vega 5C the 'Winnie Mae' around the world in seven days. The courageous and pioneering Amelia Earhart became the first female pilot to cross the Atlantic and the first female pilot to fly solo from Hawaii to California, also in a Vega 5C. Planes became more and more powerful with new designs to their wings and bodies to make them slick and streamlined. Reginald Mitchell's designs for Supermarine created the Supermarine K5054 later to be known as the Spitfire. On its maiden test flight, standing in his tweed jacket and smoking his pipe at Eastleigh Airfield Hampshire, Mitchell muttered: "Spitfire was just the sort of bloody silly name they would choose." This was truly a pioneering age of flight. Yet flight was still only in the sights of a select few. It was still not commercially viable for everyone despite the immense interest and press that was lavished on the heroes of the industry.

The first problem facing the fledgling airline companies was people. It wouldn't be enough to fund such a risky business into a mass market on the expectation that people would simply want to travel in planes as an extremely expensive alternative to sea travel. Travelling from A to B was the only expected outcome and nothing more. The answer to convince people to use air travel was found in its appeal - the dream of flight. The aspirational luxury of travelling in a wonderful flying machine to an exotic destination. It was easy to capitalise on the press received by Hughes

World War II

Powerful, sleek war birds faced off against one another in a battle for rule of the skies

1936

Supermarine Spitfire

This outstanding plane represented a unique blend of power and agility. Tricky to handle for the inexperienced pilot, due to it's sensitive characteristics, but an absolute dream if there was enough experience behind the control stick, the Spitfire could out-climb and outrun the German Me 109 in the deadly months of 1940 when Britain and Germany fought for dominance of British skies. In the words of fighter ace Adolf Malan: "The spitfire had style and was obviously a killer"

Brief Bio

CHUCK YEAGER

1944

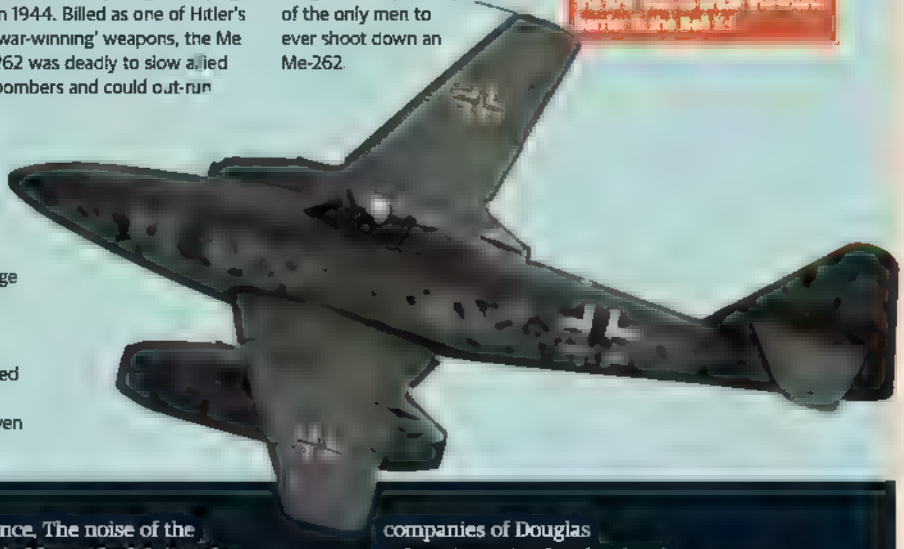
Messerschmitt Me 262

The first jet fighter ever to enter service, the Me 262 was faster than anything else flying in 1944. Billed as one of Hitler's 'war-winning' weapons, the Me 262 was deadly to slow allied bombers and could out-run any rival fighter aircraft. Ace American fighter pilot Chuck Yeager was reportedly one of the only men to ever shoot down an Me-262.

1940

F4U-4 Corsair

The odd shape of the Corsair's wings enabled it to maintain outstanding power and speed while at the same time survive the enormous stresses of landing on an aircraft carrier



1938

The turbo prop

The secret to the success of the large aircraft designed in the Forties was the dedicated engine of the turbo prop. The turbo prop allowed the propeller to be driven by compressed air making it faster and more fuel-efficient. Today, most propeller-driven aircraft feature turbo props.

and Lindbergh. People wanted to travel and they fell in love with the romanticism of the great pilot-explorers of the age.

The next problem was designing an aircraft that matched the dream's expectations. The romanticism of air travel would die a quick death if passengers were forced into cramped, dirty, cold, converted bomb bays of a dressed-up warplane. There was also the question of cost. How could airlines make operating routes financially practical? The answer lay in a standardised, cheap-to-construct plane that could offer comfort and style for customers and keep the operator in business. So, in 1926, the airliner was invented and adopted by American Airlines. Henry Ford, who had been interested in developing a production line base model for the airline industry, created the first of these new 'air trains' in the form of the Ford 5 AT Tri-Motor. The cabins were still cramped but uncle Ford's planes offered leather interiors, in-flight meals, room for luggage and a host of air stewardesses on-hand to offer stiff drinks and hearty reassurance. The noise of the engine and the juddery ride didn't make for a restful flight, however.

As the appeal of air travel grew, so did the planes. Designs were proposed for safer craft that offered all the luxury of a sea voyage, the air industry's biggest competitor. The new flying boats of Boeing encapsulated this drive for luxury travel. The designs were wild, opulent and captured the essence of glamour inside and out of the aircraft. The Boeing 314 Yankee Clipper, which flew the transatlantic service, was equipped with a full saloon bar, its cabin resembled a society lounge with wicker basket chairs and full silver service. The opulence and adventure was also captured by the Pacific routes made by the Martin Model 130 that opened up the mystery and promise of the Far East to travellers. Domestic airlines started to set the standard for modern airline services. Routes within the United States and beyond started to be serviced by the new DC-4s and Boeing 307s, with the great rival companies of Douglas and Boeing going head-to-head to offer more luxury, comfort and safety with smoother rides and faster flights. It also awarded airline companies with the great Holy Grail of the skies: air travel that paid for itself through customer tickets.

World War II changed the aircraft industry yet again – this time by unprecedented propositions. The advent of the jet engine created bigger, faster and more numerous aircraft. The industry had developed from the domain of the super rich to a service attainable by the new middle classes of the free world. But with a new era came new challenges. Aerial regulation, tighter business control and the ever-increasing need to make air travel cost-effective meant that much of the golden age extravagance was lost. There were to be no more flying boats – they were simply too expensive to operate. No longer could the airlines offer three-course gourmet dinners in a saloon-style bar in-flight, as it was too dangerous

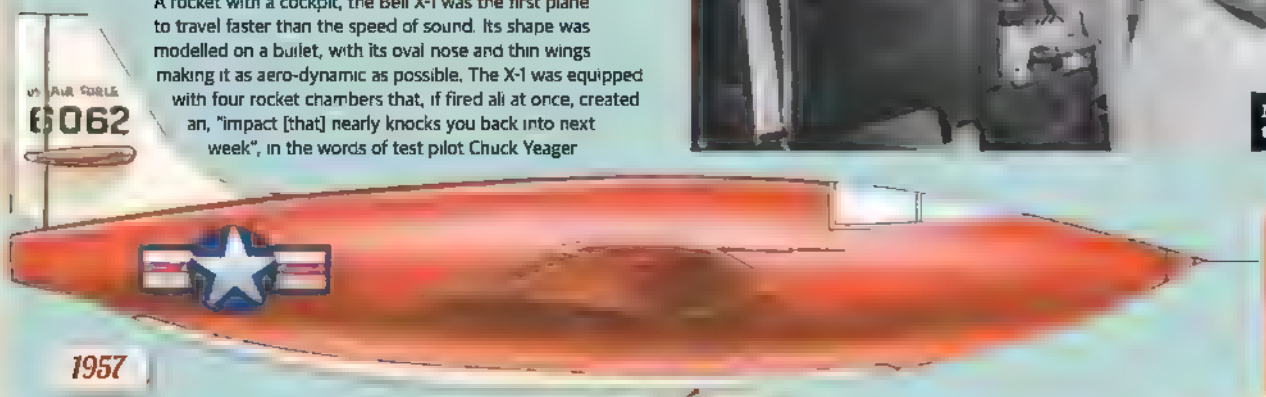
Cold War

Competition between East and West created a drive for faster and bigger flying machines

1946

Bell X-1

A rocket with a cockpit, the Bell X-1 was the first plane to travel faster than the speed of sound. Its shape was modelled on a bullet, with its oval nose and thin wings making it as aero-dynamic as possible. The X-1 was equipped with four rocket chambers that, if fired all at once, created an, "impact [that] nearly knocks you back into next week", in the words of test pilot Chuck Yeager



1969

Boeing 747

The 747 gave the air industry what it needed: a passenger plane with huge ca[illegible] accommodate 409 [illegible]

Mrs Nixon visits the cockpit of the first commercial Boeing 747

1957

Boeing 707

The first truly successful airliner, the Boeing 707 was fast, sleek and benefitted from four fan jet engines that were more fuel-efficient than other models

1958

Ejection seats

Travelling faster than the speed of sound in a military aircraft presented a unique challenge for pilots bailing out. The aircraft would be travelling too fast for pilots to simply open the canopy and jump. Instead, a seat combining vertical rockets and seat restraints was designed. In order to get the pilot clear of the tail fin, the seat had to accelerate the occupant vertically to 100mph in 0.4 seconds.

to have half-drunk passengers wandering around the cabin if the plane experienced an emergency. This meant that as standard shapes and sizes in plane design emerged, such as the Boeing model 377, the elaborate styles of the Twenties and Thirties were lost forever. Big corporations now decided what flew and what didn't based on profit margins. No one could put this principle better than the American test pilots in the Mojave Desert – the men who had broken the sound barrier in the Bell X-1. Their funding was being cut to make way for space rockets, the next great adventure into the heavens. In the quiet on-base bars the pilots would mutter one thing over their drinks: 'No bucks, no Buck Rogers.'

In-keeping with this tight eye on business, standard safety features and the need for ever-greater passenger capacity per aircraft was the new Holy Grail airlines were forced to pursue. With the new long-range airliners by 1957 more people were crossing the Atlantic by plane than they were by boat. The jet engine was gratefully acquired and adapted from the military and soon the propeller-driven airliner was a thing of the past. There were high-profile problems though. The first-ever jet-powered passenger plane, the De Havilland Comet, had an horrendous safety record but finally, in 1957, Boeing unveiled the plane that gave airlines their first huge commercial success: The Boeing 707. The 707 served as the blueprint for all future airline designs to follow, with external engine nacelles, roomy cabins, in-flight movies and cabin service. The power of the media was harnessed; the sex appeal of air travel with beautiful women and the huge jet planes they could be found in was used to attract the rich and powerful. As the money started to finally roll in, the market began to shrink in the big players. Imperial Airways became British Airways, independent American airline companies became united under United Airlines and Pan Am, unable to sustain its fleet of flying boats or its routes adequately without incurring huge losses, finally folded. The 707 gave way to the double-decker 747 that was in turn overtaken by the giant Airbus 380 as the goliath of the sky. It was now possible to travel from London to Sydney in less than 24 hours non-stop in the global village that the airlines had created.

Planes were no longer designed to offer extravagance but rather a safe and comfortable ride. There was no need for airlines to see themselves in competition with sea voyages, the by-gone years of sea travel in luxury was an expense few modern people could afford. Business became so successful that airlines could offer ever-cheaper fares, opening up more markets to well and truly stamp their dominance over the travel industry. It soon became a dreary era of bigger planes for bigger capacity based on the same basic designs. In amongst this mediocrity stood one machine that was a piece of breathtaking aero-engineering genius. It blended the envelope of technological advancement with pure style and luxury worthy of the golden age of flight. It also gave a new kind of adventure for its passengers

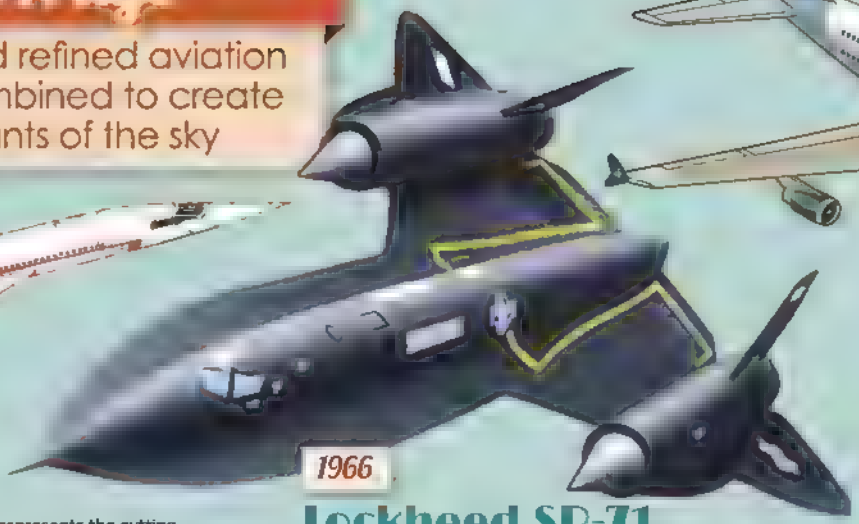
Modern age

Technology and refined aviation techniques combined to create the new giants of the sky

1976

Concorde

First appearing in 1973, Concorde still represents the cutting edge of civil aviation technology. The technical challenge of getting an airliner to perform like a fighter aircraft was so huge that when British-Franc aerial engineers started working on the designs more than one critic said it could never be done. Everything about Concorde was built for speed, its delta wings, its four Rolls Royce engines and its airflow control system were designed to give maximum velocity with minimal drag.



1966

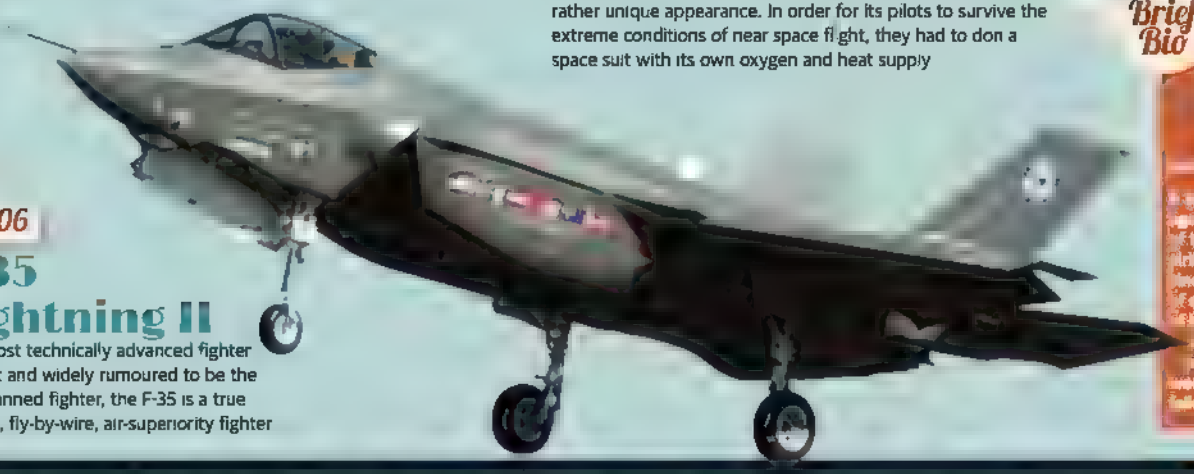
Lockheed SR-71 Blackbird

Reaching a velocity of over three times the speed of sound and a height of 100,000 feet (18 miles) the SR-71 Blackbird was the highest and fastest aircraft in the world. Used by the US military for spy missions, its aerodynamics aimed to give maximum power for the least amount of drag, prompting its rather unique appearance. In order for its pilots to survive the extreme conditions of near space flight, they had to don a space suit with its own oxygen and heat supply

2007

Airbus A380

The Airbus 380 is the single biggest passenger plane currently flown by airlines. Many airports have had to modify their facilities to accommodate their gigantic size



2006

F-35 Lightning II

The most technically advanced fighter aircraft and widely rumoured to be the last manned fighter, the F-35 is a true stealth, fly-by-wire, air-superiority fighter

"Concorde's retractable nose and delta wing enabled it to pierce the sound barrier"

totally unique to its own characteristics. The plane's name was Concorde and it offered its passengers the chance to travel faster than a speeding bullet. Described by its principle test pilot Brian Trubshaw as nothing short of "a miracle", the Concorde offered the extremely wealthy the chance to fly from London Heathrow at breakfast and arrive in New York in time for their eggs and bacon. Everything about the plane screamed modernity. Concorde's retractable nose and delta wing enabled it to pierce the sound barrier, while its four custom-made Rolls Royce engines were powerful enough to give a cruising speed of mach 2. Inside, style and elegance were once again reborn, offering 128 passengers first-class service as they crossed the Atlantic at supersonic speeds. As one journalist put it: "Moving a mile every 2.7 seconds [my coffee] doesn't even ripple." Yet Concorde was launched into a world that was becoming increasingly hostile to air travel. Flight was no longer viewed as the glamorous adventure it was three decades before. Some of the crucial factors stacked against the plane were fuel and noise pollution, the cost of a ticket – which for Concorde clocked in at £6,000 return – and the extraordinary expense the Concorde planes took to maintain. There were also serious questions being asked about the aircraft's safety, when in 2000 an Air France-run flight crashed shortly after take-off, killing over a hundred people. All this meant that in 2003 the whole fleet was grounded permanently. Peoples' perceptions of flight had changed. Luxury and speed was now seen as optional extras rather than requirements. In this competitive world the Concorde represented a technical marvel but one meant for a different age, an age where air travel was something special rather than a mundane day-to-day activity.

From the tentative first flight of the Wright Flyer lifting a few feet off the ground, to the roaring sound of Concorde's Rolls Royce engines at the cusp of the sound barrier, the air industry has always inspired and been inspired by the dreams of entrepreneurs, pilots and adventurers. Greater and more-powerful machines continue to be designed by the top names in the industry, from the smart fighter jets of the F-22 and F-35, to the first green aircraft of NASA's Helios, ensuring that people continue to take to the air and conquer the heavens above. In the words of Claude Grahame-White in 1914: "This conquest of the air will prove, ultimately, to be man's greatest and most glorious triumph."

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MAO ZEDONG
China, 1893-1976
Brief Bio
毛主席革命路线

MAO'S DISASTER PLAN

China's disastrous bid to become the greatest country in the world

Written by Chris Fenton

In 1940 China was in hell. The country was overrun with foreign invaders, the government was powerless and the workers fought among themselves for the scraps falling from the tables of petty warlords. How did the celestial kingdom come to this? The communists knew the answer - through the arrogance and pomposity of China's noble emperors. Communism had changed all that and chased away the foreign devils, pushed aside their rightist puppets and, by 1949, had established a peoples' China. The self-styled driving force behind this revolution was Mao Zedong, the chairman of the Chinese Communist Party and a man of the people. Residing from proletariat beginnings in Hunan province's rural China, Mao had grown up with revolution fervor in his veins. Having witnessed the destruction of Chinese power and heritage during the early 20th century, he had become a committed nationalist and later a communist, dedicating himself to the restoration of Chinese power through collective struggle. He had seen the Chinese peoples' spirit when properly motivated during the Communist Party's retreat into the mountains, which would later be dubbed the Long March, and the triumph of communist ideals after the destruction of the fascists led by Chiang Kai-Shek - his greatest rival. Now, under his leadership, China would be great again.

Mao's plan was to instigate a radical industrialisation of the Chinese countryside, creating mass communes to produce grain, rice and steel to turn the country into a superpower. The population was to be organised on a mass scale – this was no time to think small, the Chinese strength was in its population and the entire country had to be put to work to make China great again. These reforms would combine to form the Great Leap Forward. He ignored economists who argued for a gradual industrialisation process rather than a single quick bound and those who said that the post-feudal Chinese society couldn't handle so much change so quickly. Anyone who got in the way of his vision was against Mao and so against China. So, in May 1958, the Communist Party agreed to Mao's proposals. China braced itself for its Great Leap Forward out of hell into a workers' paradise. What followed was one of the worst humanitarian disasters in history.

Mobilisation and ideological conditioning of the Chinese people was absolutely key. Under Mao's plans, all private property and private action was banned. Every Chinese rural worker was forced into communes, thousands strong, to create a mass land army to produce grain that would pay for new equipment from abroad and lead to the production of steel. Under the commune system workers would sleep in dormitories, eat in huge communal kitchens and work a '48-hour working day, with six hours for rest' as the *People's Daily*, Mao's propaganda newspaper, proudly proclaimed. There was not even room for traditional Chinese family roles in the new collectivist utopia - children were sent to mass crèches and women into the fields to work.

Party officials would 'herd villagers in the fields to sleep and to work intolerable hours, forcing them to walk to distant additional projects.' As villagers watched their homes get destroyed to make way for the mass communes, some wept. One villager cried, "Destroying my home is even worse than digging up my ancestor's gravestone!" Mao was delighted and commented: "The notion of utopia mentioned by our predecessors will be realised and surpassed." Initial results sent back to Beijing were more optimistic than Mao could possibly imagine. The harvest was so good that communist workers were encouraged to eat 'five meals a day' in the communal food halls. As one commune worker put it: "It was real communism... we got to eat things made from wheat flour every day and they were always slaughtering pigs for us. For a while it seemed that they were telling the truth and we were going to enter heaven."

Mao saw no need to wait for grain production to start rendering export capital and commanded steel production to start immediately. He instigated a cottage industry for the steel program – Chinese urban dwellers and rural workers were told to make steel in their backyards with primitive furnaces. Foreign visitors were impressed when they visited Beijing and saw the cityscape lit up with the contained fires of Mao's mini steel plants in the back gardens of his comrades. As one commune member recalled, "The more metal you collected, the more revolutionary you were."

Mao instructed grain harvesting to be switched to cash crops, such as cotton and for steel production to be given the highest priority. The figures for the 1958 harvest showed there was more than enough food to go around so, as far as Mao

"Mao's ideology had shackled a grim existence of absolute poverty to the provinces and had killed millions"

was concerned, China should continue to bound forward. In August, Mao raised the target for steel production from six to nine million tons. Provincial leaders spoke of unleashing 'surprise attacks' into the fields with 'shock armies' of mobilised labour to gather in cotton and begin collecting metal for steel production. War was also declared on flies, rats, mosquitoes and grain-eating sparrows. As the weather closed in and Chinese workers began to feel the grind of their 48-hour days, loudspeakers in every commune boomed out Party propaganda. "Our workers are strong, the people's communes are good!" By now grain was being left out in the field as workers frantically scrambled through their communes trying to find raw material for their backyard steel plants.

Party ideology was relentless and the eradication of sparrows became fanatical, but by killing the sparrows there were no longer any predators that could kill the insects that were now destroying crops. Other such contradictory policies emerged. Mao's obsession with steel production meant there were no longer enough workers to bring in crops and they sat uncollected in fields, rotting away as food reserves diminished.

The ideological pressure worked so well that no one really knew China was marching headlong into a disaster until it was too late. The 1958 harvest was modestly successful but no one wanted to be the one to tell Mao that it wasn't a resounding success. A poor harvest followed but the workers were encouraged to 'fill their bellies until they burst' and as a result the food supplies were quickly ate through. Since the commune system had not envisaged transporting large amounts of food to other communes, food could not be transported to the areas that were now suffering from famine. In a Guangdong commune a six-month supply of rice was eaten in 20 days and then the old and weak started to die of starvation.

The violent hysteria Maoism had created was now directed against the people, as starving Chinese workers began to weaken through malnutrition and the nightmare poverty of the commune system. Special 'criticism sessions' were established by Party officials within rural villages and miscreants who were not meeting the required working standards were paraded in front of the village and Communist Party members forced other villagers to beat and humiliate the accused. The good harvests indicated by the official statistics meant that Mao continued to insist that steel was brought in to build his great utopia.

Thousands of rural peasants were forced through beatings and intimidation to abandon food production and concentrate on making steel from their furnaces, despite the hunger they were now experiencing. One communist inspector noted on the punishments: "Commune members too sick to work are deprived of food. It hastens their

A crowd stare at a victim of the famine

The little red book

Mao's little red book, more formally known as *Quotations from Chairman Mao Zedong*, details the deepest aspects of Mao's wisdom. It was first compiled during the Great Leap Forward by committed Maoist Lin Biao in 1960. While the original text is a tedious diatribe collecting over 400 selected quotes about the evils of capitalism and the need for continuous revolution against the bourgeoisie, its condensed version, the little red book, was used extensively during the Cultural Revolution by Maoists after the failure of the Great Leap Forward. The book preached non-violence to solve internal disputes and democracy among the instruments of the Communist Party, but also marked unity and a continuous form of revolution as key to a successful communist state. These contradictory laws resulted in violence among fanatical Maoist supporters and the supposed enemies of the state during the Cultural Revolution. Critics have argued that the book's publication was little more than an attempt to raise the profile of Mao after the failure of the Great Leap even though Mao insisted the book represented his inner thoughts about the subject of Marxism. Despite Mao's disapproval of profit-making enterprises in the book, he wasn't above claiming millions in royalties when it became a bestseller – only the Bible has more copies in circulation.

The Kuhsien steel mill in Changchi city added about 220 small local-type furnaces in seven days, increasing the daily steel output from 90 tons to 2,150 tons

Mao Zedong on a balcony above a seemingly adoring crowd

deaths." The persecution within the rural areas was terrible, but things were even worse in urban dwellings. Constant Party propaganda, mixed with the terrifying prospect of being selected for 'criticism', meant that urban dwellers had to toe the line and endure the endless working hours. Industrial accidents in factories were commonplace due to exhaustion and Soviet advisors teaching the industrial techniques left after abuse and molestation by Mao's officials, taking with them their expert knowledge. When asked about production figures, a typical response from one foreman was: "Day in, day out, they telephone for figures... who cares if they are true or false? Everyone is just going through the motions!"

One man had his ears chopped off, was tied up with iron wire and branded with a white hot tool after he stole a potato from a communal plot near a factory. The worker's utopia had become a proletarian nightmare.

As the summer of 1958 turned into the harsh reality of early 1959, the supposedly glorious Great Leap had turned into a cold drop into the abyss. The decision to carry on regardless rested with the workers' paradise itself – China and its rotten communist system. There was no doubt in the mind of Mao that the Great Leap was working at the end of 1958, but this was because the system had created die-hard communist rhetoric and by 1959 that's all that Mao was hearing.

Part of the great Maoist vision was to enable communes to organise themselves – subject to strict Party controls – and give them centrally dictated grain and produce quotas that the provisional leaders had to meet. Of course, it would take a brave man, or a suicidal one, to return to the communist leadership anything other than glowing reports of fabulous harvests and content workers. Local leaders from Sichuan province were often compelled to revise their grain figures upwards if the original amount was felt to be not what the Party wanted to hear. Doctored photos were taken for the *People's Daily* of children lying on tightly packed wheat six-feet high. It was a delusion, the people were starving, but the Party swallowed the lie and Mao insisted on bigger targets, which created a culture of deceit among the provinces. If one area had a high grain production, whether falsified or not, its neighbouring area would double their figures. Even the Mao-endorsed 'make your own steel' furnace was a fabrication. The high-quality steel Mao saw from the prototype was probably imported from one of the Soviet-model factories outside of Beijing.

This was Mao's fantasy world and it was lethal. By the end of 1959, as the full force of the disaster unfolded, the time China would need to overtake Britain economically was slashed from 15 years to five and then down to two by the Party. One of the first test communes in Henan was named 'Let us overtake England'. Its inhabitants starved after their farmers were sent to produce steel and their fields flooded due to poor irrigation control. Locusts ate what was left of their crops. Terrified provisional leaders carefully managed tours by Party leaders.

At the beginning of 1959, Marshal Peng Dehuai, a ranking People's Liberation Army soldier who was deeply committed to the wellbeing of the

"The Great Leap was no longer about grain, communism or even China. It was about Mao and his unquenchable ambition"

peasant farmers, visited the communes and was appalled. He was convinced that the Leap had been an utter disaster. He talked to the emaciated peasants trying desperately to manufacture steel even though they were starving and asked: "Hasn't any one of you given a thought to what you will eat next year if you don't bring in the crops? You're never going to be able to eat steel." The response was typical: "True enough, but who would stand up against this wind [command]?" Even Peng himself thought better of saying anything to the Chairman. Then, in the summer of 1959 after seeing the latest fabricated figures from the communes, Peng could restrain himself no longer. He wrote Mao a letter describing the Great Leap as a 'wind of exaggeration.' Mao's response was to throw a temper tantrum and in a speech to the Party he described Peng as a 'bourgeois rightist' who needed to strengthen his backbone. Peng was promptly forced out of Mao's inner circle to live among the peasants in a run-down area of Beijing. The standard line from the Party was spoken by a Mao favourite, Shanghai leader Ke Qingshi. "We should obey the Chairman to the extent of total abandon, in every respect – thinking, perspective, foresight and method – we are way behind [Mao]." There was only one man who could stop the Great Leap from bounding into greater destruction: Mao himself.

The beginning of 1960 brought with it grim statistics. Average available grain per head had dropped from 311 kilograms in 1958 to 191 in 1960. Mao's ideology had shackled a grim existence of absolute poverty to the provinces and coupled with the corrupt, sycophantic communist system, had killed millions. People were eating tree bark and gnawing the flesh off corpses lying unattended in Chinese streets; all from a country that was supposedly producing 596 million tons of grain a year. Mao was convinced it was everyone else's fault. He blamed the provincial officials for not following his reforms closely enough, then for following them too rigidly. He blamed the Party in 1959 when he sensed that the officials were starting to move away from him, which after the Leap's failure was becoming glaringly obvious. His rants became more drawn out, claiming the revolution was "under a combined attack from within and outside the Party." A new anti-fascist campaign was launched by Mao, which purged anyone who wasn't feeding him the lies he wanted to hear. In the end, he blamed communism itself. In a heated speech to the Party after reports that peasants were dying of exhaustion, he said: "If you don't follow me, I'll do it myself... even to the lengths of abandoning my Party membership and even to the extent of bringing a suit against Marx himself." The Great Leap was no longer about grain, communism or even China. It was about Mao and his unquenchable ambition, as well as the forces of reality that were blocking him in his great quest.

As the months rolled by in 1960, and the population became weaker and weaker, Mao began to realise the country was in turmoil. The United States offered humanitarian aid and, in a final act of humiliation, so did Japan. They were all refused and Mao descended into a depressive stupor. The Party members became more vocal in their dissent but Mao used his traditional form of intimidation. He threatened to purge dissenters, even going so far as saying: "I will go into the countryside to lead the peasants to overthrow the government." The level of these misguided tantrums was only matched by the amount Mao was now out of touch with reality. The famine had crippled large parts of the country's infrastructure; the only official organ that was working was the Communist Party and its lackeys. Even if Mao's supporters were willing to follow him through another civil war, the population was no longer physically capable of fighting one.

Finally, in 1960, Mao approved some roll back on the Great Leap. He allowed the economic planner Chen Yun to cut back on steel production and concentrate on farming grain for the starving populace. The farcical quota system was made more attainable and thousands of industrialisation projects were cancelled. It was far too late. Over 30 million Chinese citizens lay dead, mostly due to starvation but a good portion due to the savage punishments imposed by Party officials. Some official Communist Party figures put the figure at 40 million dead. Mao's doctor had to order in more sleeping pills for the great leader.

By the end of 1960 China was in hell once again, however this new hell was called Maoism and it was digging China deeper into the depths of starvation and absolute poverty. Mao's ideology and propaganda had convinced the people to starve themselves by their own hands, it had forced the communist system to hasten their fates and had even deluded Mao himself. On Mao's birthday that year, the inner circle of the Party faithful dined on bird's nest soup, baby doves, shark's fin and the finest wine. The event was noted for the vast amounts of alcohol consumed, with at least one top-ranking official falling down drunk. Around the same time a Chinese peasant recalled the death around her due to the famine: "The people were numb, you just carried on as usual – no fear of death, no emotion for the living."

Mao's vision

May 1958
The Great Lead Forward begins. Millions of Chinese workers are inspired and motivated by Maoist communism, striving to shake off their feudal existence and become happy, productive state workers.

Harvest 1958
The harvest in 1958 is so bountiful and the commune system is working so well that Mao insists that workers eat five meals a day in the communal kitchens, fulfilling the ideal of the workers' paradise.

April 1959
The timetable for overtaking Britain is shrunk from 15 to two years. The workers are producing grain, cotton and steel in such large quantities that export capital is building huge industrial cities.

June 1959
Mao addresses the Luschan Party conference in triumph. He has stared down the capitalists in America and the class traitors in the Soviet Union that told him he couldn't make China a world power.

1960
China has become so powerful that the Western imperialists are forced to treat with Mao on his terms. American bases in Japan are forced to close and the Soviet Union now takes its lead from Beijing.

1946 — 1948

China's reality

May 1958
The Great Lead Forward begins. Millions of Chinese workers are displaced and forced to relinquish all private property, leave their ancestral homes and begin grinding 48-hour working days.

Harvest 1958
The 1958 harvest succeeds, but the Party overestimates its success to please Mao. In reality there is not enough food in the country for the workers and reserves are depleted by the communal kitchens.

April 1959
Fifteen provinces are now suffering from drought and 25 million people need urgent food relief. There is no help forthcoming from the government as the Party had not planned for such an eventuality. The workers are suppressed.

June 1959
Mao is forced to fight for his position at the Lushan conference. Loud voices in the Party are now saying that the country is in chaos. As a final act of humiliation China is offered food aid by America and Japan.

1960
With the country in chaos and over 30 million people dead, Mao's power within the Party weakens. He is forced to accept partial blame for the Great Leap and allows Party officials to roll back his plans.

A prisoner is subjected to public criticism

Failures

Communal eating

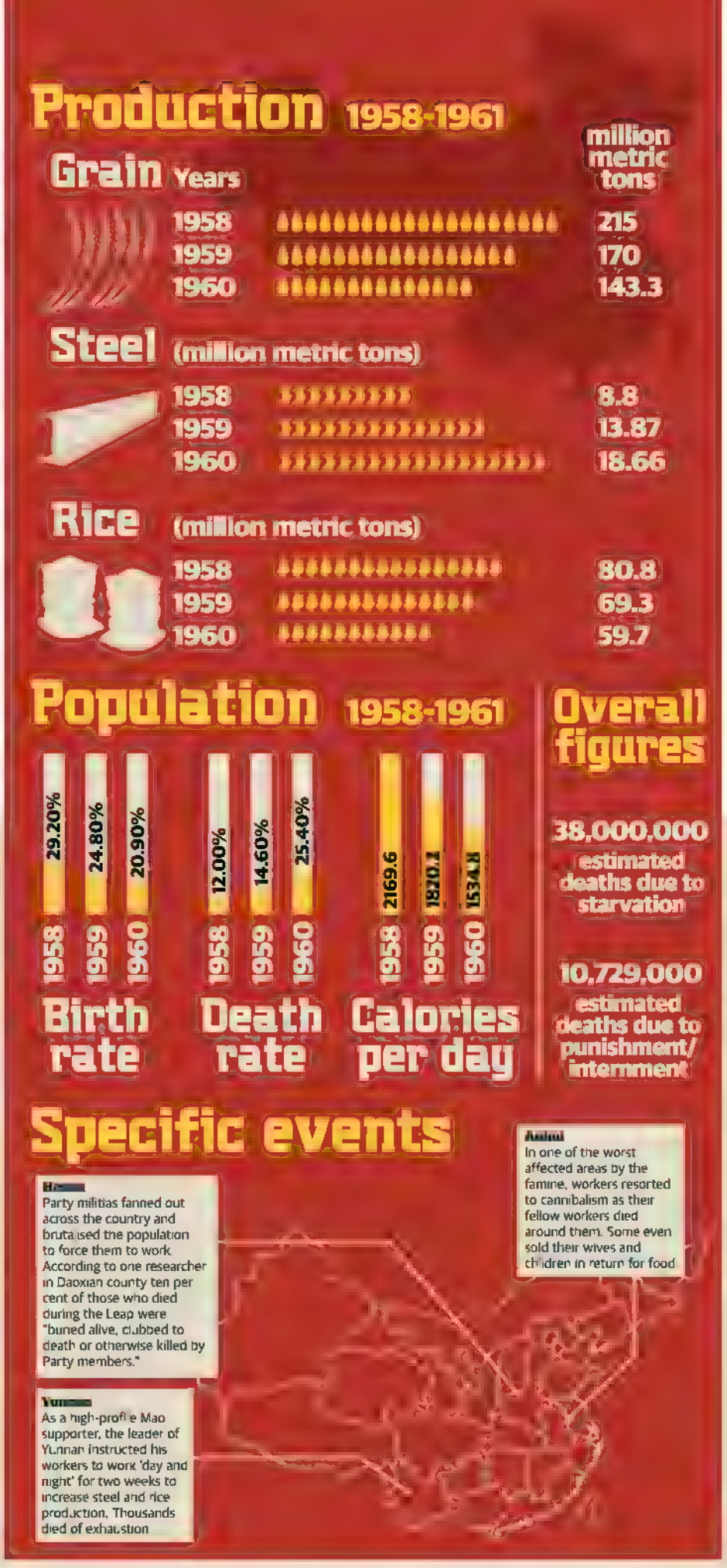
Maoist communism commanded the people to live side by side in communes and eat together in communal kitchens. When the Great Leap started, workers were encouraged to eat as much as they wanted in the communal kitchens. What followed was severe food shortages as the harvests could not support such demand for food and the communist system wasn't strong enough to provide food aid to all parts of the country. This led to famine.

Steel furnaces

Mao's backyard steel industry was a disaster from the beginning, the prototype he saw probably did not produce the high-quality steel he was told it did. Feeding low-quality metal into the furnaces only served to create low-quality produce, meaning the workers were wasting their time. After millions of starving workers tried to produce steel rather than food, Mao was convinced to leave steel production to proper industrial facilities and skilled workers.

Irrigation

Thousands of starving peasants died creating ill-conceived and poorly planned irrigation projects throughout China. Mao knew the importance of irrigation to a country that had a vast amount of land and an unpredictable climate, but had expelled the Soviet engineers sent to help China establish such large projects. The irrigation projects that were built created droughts in some areas and flooding in others, as poorly trained Chinese agriculture engineers were ordered to set about irrigating Chinese fields without expert advice.


Production 1958-1961
Grain
Years
million metric tons
1958 215
1959 170
1960 143.3
Steel (million metric tons)
1958 8.8
1959 13.87
1960 18.66
Rice (million metric tons)
1958 80.8
1959 69.3
1960 59.7
Population 1958-1961
29.20%
24.80%
20.90%
12.00%
14.60%
25.40%
2169.6
1820.1
1534.9
1958
1959
1960
Birth rate
Death rate
Calories per day
Overall figures
38,000,000
estimated deaths due to starvation
10,729,000
estimated deaths due to punishment/ internment
Specific events
Party militias fanned out across the country and brutalised the population to force them to work. According to one researcher in Daoxian county ten per cent of those who died during the Leap were "buried alive, clubbed to death or otherwise killed by Party members."
As a high-profile Mao supporter, the leader of Yunnan instructed his workers to work 'day and night' for two weeks to increase steel and rice production. Thousands died of exhaustion
In one of the worst affected areas by the famine, workers resorted to cannibalism as their fellow workers died around them. Some even sold their wives and children in return for food

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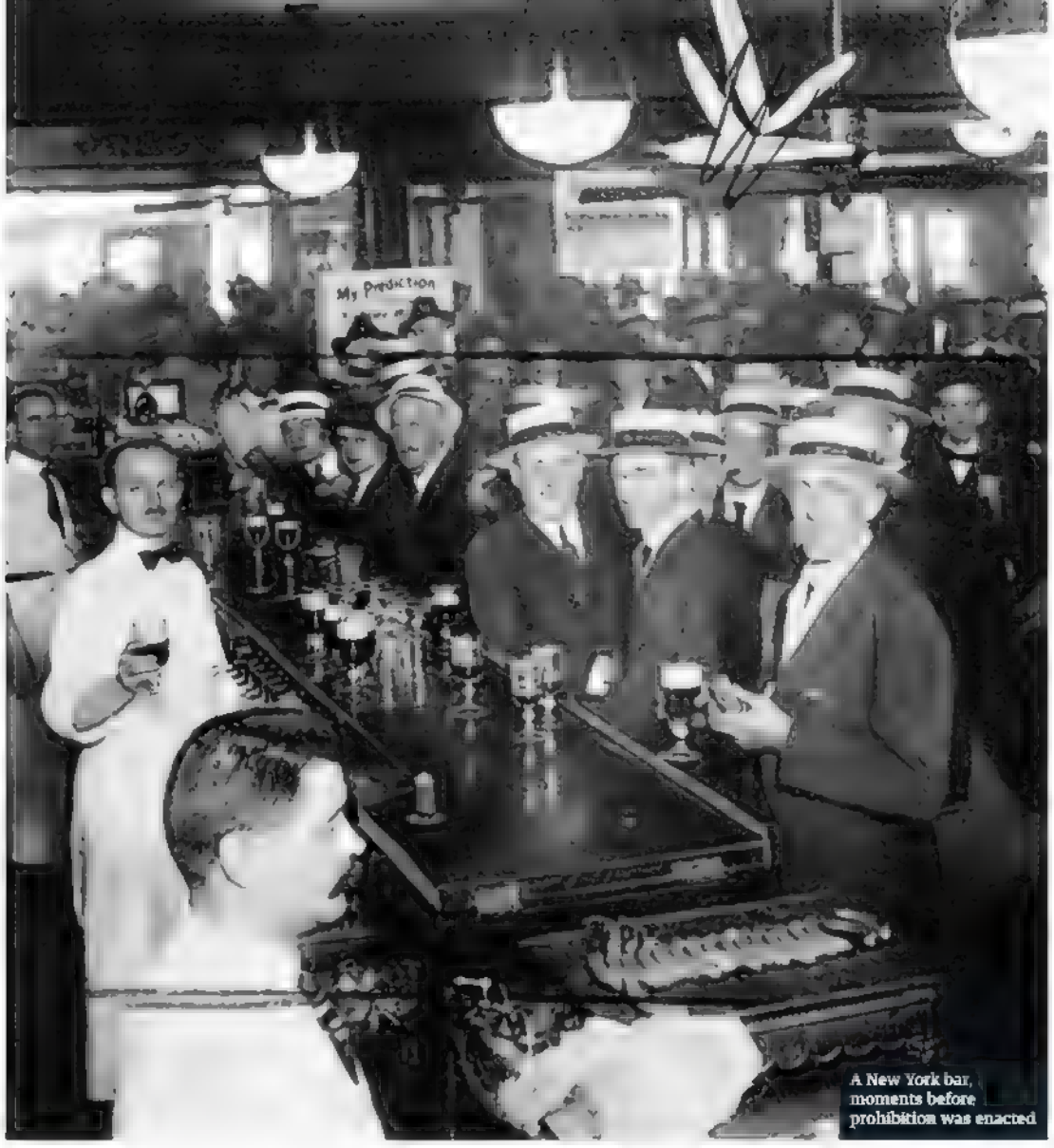
HOW AMERICA WENT DRY

· 1920 ·

THE ROAD TO PROHIBITION

THE COMPLEX POLITICAL MANOEUVRES AND SOCIAL FACTORS THAT SAW A NATION CALL TIME AT THE BAR

WRITTEN BY
ANDREW BROWN



A New York bar, moments before prohibition was enacted

Filling kegs at a bootleg brewery during prohibition, 1933

Illegal alcohol was destroyed during prohibition

As the music from the band blasts out even louder than normal and a cloud of cigarette smoke lazily swirls in the air, customers hustle and jostle at the bar for the best position, trying desperately to make eye contact and get served. The bar is busier than usual and a strange atmosphere inhabits the room, a mixture of excitement, confusion and fear of the unknown. The date is 1 January 1920, and later on this month the 18th Amendment banning the sale of alcohol will come into effect and send the whole country dry.

America's path to this moment was a long and winding one – this wasn't something that happened overnight. The country had a long, difficult and complicated relationship with alcohol, partly due to the strong current of religious and puritanical beliefs that ran through much of it, which vividly contrasted with the thirst for alcohol that some colonists – and then later on immigrants – brought with them. For instance, when the ship Arbella set off from England to the Massachusetts Bay Colony in 1630, it did so with 10,000 gallons of wine and three times as much beer in her supplies than water. These opposing forces continued to clash, but for all those but the most ardent alcohol supporters, it was becoming clear that the country was developing a problem. By 1830, Americans

> "By 1830, Americans over the age of 15 years consumed nearly seven gallons of pure alcohol a year"

over the age of 15 years consumed nearly seven gallons of pure alcohol a year, three times as much as the current levels in the US, and still the highest measured volume of consumption throughout the nation's history.

Religion and prohibition often went hand in hand, and the 'Temperance Movement' was the name given to a range of organisations and groups that believed that alcohol was having a harmful and negative impact on their country. In 1826 the American Temperance Society (ATS) formed, and within five years there were over 2,000 local chapters, with 170,000 members who had taken a pledge to abstain from drinking distilled beverages. These movements, which also turned their attention to women's rights and slavery, at first advocated moderation when it came to alcohol rather than an outright ban. The movement was about a certain way of life; god-loving, clean living and hard working. They positioned their cause as one that would galvanise the country and lead to better living and working conditions.

The consumption of alcohol and the frequenting of bars and saloons, which were also associated with gambling and prostitution, did not fit into this vision of America.

This viewpoint, this vision of America, was in many ways valid. Between 1870 and 1900, it is estimated that the number of saloons nationwide increased from 100,000 to 300,000, in part to meet the demand of the millions of immigrants from England, Ireland and all around the world that were flocking into the country in their droves to chase the American dream. Saloons were male-only institutions, and for many they were the bedrock of a town, and the drinking, gambling and other activities that also took place there were part of the rich and full flavour of American life.

During this time period, a host of other anti-alcohol organisations also emerged, with one of the most prominent being the Woman's Christian Temperance Union (WCTU). The Union was formed when Eliza Thompson led a group of women to each of Ohio's saloons, where they then knelt

ROAD TO PROHIBITION

1600s

Colonialism
English colonists journey to America in search of a better life, and often bring with them alcohol and a culture more attuned to drinking.

1784

Medical evidence
Benjamin Rush's tract, *An Inquiry Into the Effects of Ardent Spirits Upon the Human Body and Mind*, which judged the excessive use of alcohol injurious to physical and psychological health, sparked the beginning of the temperance movement.

1789

Temperance movement
Farmers in Connecticut form a temperance association to ban the making of whiskey. Similar associations were formed in other areas, such as Virginia and New York State. The American Temperance Society was formed in 1826 and by 1838 had over 1,500,000 members.

1861

Civil war
The American civil war put a brake on the temperance movement as the country battled for the shape of its future. It was not until the mid-1870s that the issue became prominent again.

1857

Maine law
The state of Maine passes one of the first statutory implementations of prohibition. It banned the sale of all alcoholic beverages except for those used for 'medicinal, mechanical or manufacturing purposes'.

1916

Prohibition popular
By 1916, over half of the US states had statutes in place that prohibited alcohol.

1893

Anti-Saloon League
Rev. Howard Hyde Russell founded the ASL, which became one of the most influential temperance movements. The group pressured national and local politicians to pass legislation, and its slogan was 'the Church in action against the saloon.'

1919

Ratification
On 16 January Nebraska became the 36th of the 48 states then in the Union to ratify, and on 28 October the Volstead Act was passed. This act clarified the law and stated that owning any item designed to manufacture alcohol was illegal, and set specific fines and jail sentences.

1917

Resolution passed
On 1 August 1917, the Senate passed the prohibition resolution containing the language of the amendment to be presented to the states for ratification.

1920

16 January
The 18th Amendment came into effect and the sale and the consumption of alcohol was banned by law.

outside in the snow and prayed. Within days, nine of the area's 13 drinking establishments had closed their doors. One of the most famous members of the WCTU was Carry Amelia Nation, who stood an imposing figure at six feet tall. Nation set up a local branch and initially protested against alcohol in conventional ways such as handing out leaflets and voicing her disapproval until she was 'visited by god'. Following her visit she gathered several rocks and, after announcing, "Men, I have come to save you from a drunkard's fate," smashed a saloon's stock in Kansas. Nor was this a one off action, between 1900 and 1910 she was arrested numerous times for similar offences.

The actions of Nation may have garnered some headlines, but with so many different organisations, the movement was in danger of becoming fractured, and required leadership that, amid some jockeying, was provided by the Anti-Saloon League (ASL). The league was established in 1893, and by 1905 was one of the main driving forces behind prohibition. Part of the reason for this was that it didn't focus on other issues; its sole goal was the banning of alcohol. Such was the vigour of the movement that it did not even require of its members a pledge of personal

Women from the temperance movement attacking a bar

Wayne Wheeler was a driving force behind the passing of prohibition

"The alcohol trade was the nation's fifth largest industry, and supplied money and jobs for the country"

abstinence. This seemingly contradictory position was actually a reflection of the thoughts of much of the middle class, who didn't all see drinking as evil but believed that while they could control themselves, the working class couldn't be trusted. It also showed the political awareness and savvy that would become their calling card, as it meant that the politicians who voted against alcohol didn't have to personally abstain.

The ASL was founded by the minister Howard Hyde Russell, and he personally promoted promising members and built a bureaucratic organisation with both structure and organisation. The ASL were extremely effective when it came to political lobbying – a politician that supported them could always count on their support, and any that did not would receive ferocious opposition. Russell once commented that, "The Anti-Saloon League is formed for the purpose of administering political retribution." The organisation also launched a vigorous public relations campaign. For example, the ACLA had a publishing arm that in 1909 printed over 40 tons of post each month. So great was the quantity that the town where the ACL was based, Westerville, became the smallest town in America to have a first class post office.

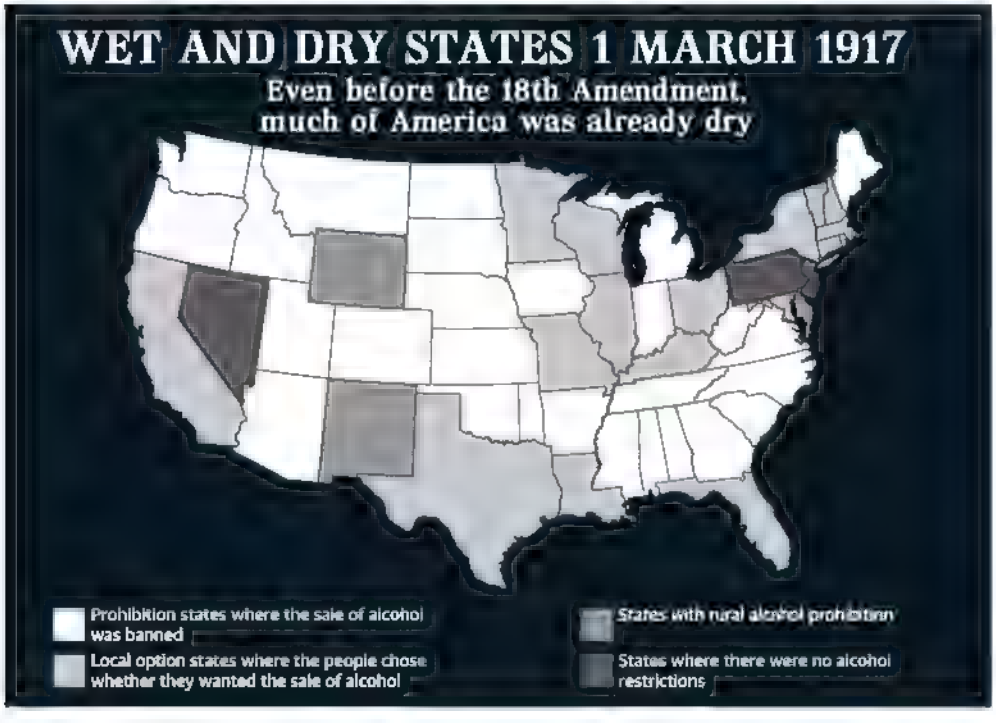
While it's hard to quantify the exact effect that the ACL had on the American public's view of alcohol, given the vast network of different organisations operating and the growing medical advice against drinking alcohol in excess, statistics do show that the per capita alcohol consumption of Americans was decreasing. According to data produced by Mark Thornton, Assistant Professor of Economics at Auburn University, in 1910 Americans consumed just over 1.6 gallons of alcoholic beverages each, by 1915, this was down to 1.4 and by 1918 – before prohibition had become law – it was just over 1.1 gallon.

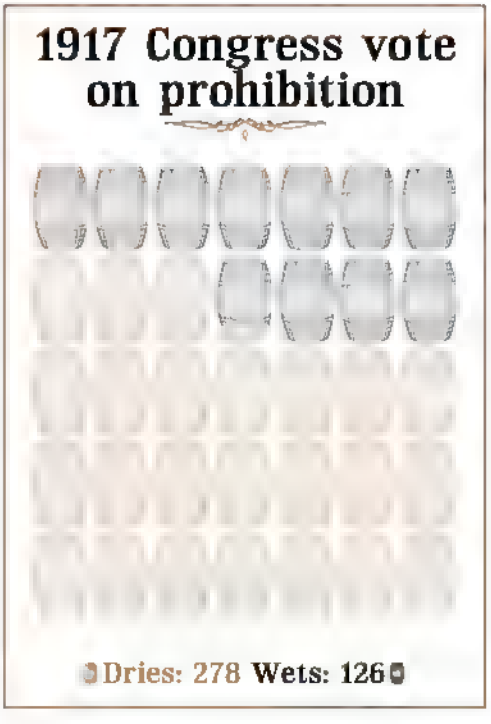
Looking at the issue with the benefit of hindsight and the knowledge of how prohibition unfolded – it has been called the 'Noble Experiment' – it is easy to view prohibition as a strange folly something that was always going to fail. However this is quite clearly not the case. Prohibition had a plethora of support behind it and, in the ACL, one organisation that was leading the cause. Many states had already decided to go dry themselves – Maine as far back as 1850 – and the overall alcohol consumption of the public was declining.

Despite the vociferous support prohibition undoubtedly garnered, the contrary viewpoint also had strong support. Many Americans harboured an innate distrust of federal interference and disliked being told what they could or couldn't do. Why should someone in Washington be able to tell them that they couldn't go to the saloon after work to enjoy a hard-earned drink? There was also big business at stake. In terms of invested capital, the alcohol trade was the nation's fifth largest industry, and supplied money and jobs for the country. Would any government politician want to put their neck on the line to support an alcohol ban and effectively put this industry out of business overnight? But the prohibition movement received support from a most unlikely source- the Germans.

"WET" OR "DRY"
"VOTE WET"
"VOTE DRY FOR PROHIBITION"
Shall the Mothers and Children be Sacrificed to the Financial Greed of the Liquor Traffic?
IT IS UP TO YOU, VOTER, TO DECIDE
VOTE DRY
Temperance movement propaganda

Many of the main players in the beer business were Germans, from prominent saloon owners to the brewers. America elected to stay neutral during WWI and when the sheer carnage and loss of human life emerged, her people were convinced she had chosen wisely. However, with the sinking of the American ship the Lusitania by German U-boats in 1915 and the death of 120 American citizens, relations began to deteriorate, and worsened when another ship, the Sussex, was sunk a year later. Many Americans were outraged at these actions, and anti-German propaganda began to spread through the country. In short, WWI provided powerful new messages on behalf of prohibition, and it was an opportunity that the politically savvy ASL weren't about to let slip through their fingers. The chief lobbyist for the ASL was Wayne B. Wheeler, and he soon became the


WET AND DRY STATES 1 MARCH 1917
Even before the 18th Amendment, much of America was already dry
Prohibition states where the sale of alcohol was banned
Local option states where the people chose whether they wanted the sale of alcohol
States with rural alcohol prohibition
States where there were no alcohol restrictions



US agents enforcing prohibition

most effective weapon for the dry brigade.

Wheeler was a slight man with wire-rimmed spectacles, a tidy moustache and a tight smile. He might not have looked like the kind of man who was capable of changing the course of a nation, but this only serves to prove that looks can be deceptive. Wheeler was also a trained lawyer who instigated legal cases on the League's behalf, and was one of the main driving forces of the ACL, to such an extent that Russell, the founder, once complained that, "There was not enough Mr Wheeler to go around."

With tensions between American and Germany rising, the pendulum really swung in prohibition's favour when the federal government announced the launching of a national income tax. This would negate the power of the alcohol lobby, as previously such taxes had accounted for as much as 40% of national revenue. The ASL now had their sights firmly trained on a national prohibition, and moved Wheeler from Ohio to Washington to step up his lobbying. Wheeler realised that if a prohibition movement was to pass then it required more support, and so an alliance was struck with the WCTU – amendments for both prohibition and women's rights would be put forward and the two organisations would use all of their power and contacts. A resolution calling for a prohibition amendment had been introduced in nearly every Congress since 1876, but none had ever emerged from committee. However, this was soon to change.

When in 1914 the vote was put before the House of Representatives, 197 voted for and 190 against. This was not the two-thirds majority the required, but was nevertheless an astonishing victory. Any politicians who had been wavering now had to think long and hard about whether they wanted to be on the winning side or not, and the League upped their activity and spending. With Woodrow Wilson re-elected in 1916, the ACL were increasingly confident that victory was just around the corner, and when, shortly after the new Congress was sworn in, the prohibition resolution was introduced, their confidence seemed well placed. The momentum was now overwhelming. The amendment passed both houses of Congress with gigantic majorities in late 1917, and the required state-by-state ratification was a walk over: 46 out of 48 states voted in favour, and by January 1920 the country was legally dry.

Prohibition may have been secured, but it was not absolute, and the Volstead Act allowed exceptions. It was allowed to keep and drink alcohol in your possession before 16 January 1920, and so the Yale Club in New York stockpiled a supply large enough to last the full 14 years of prohibition. These loopholes – and others – would be exploited fully in the years to come, and there was perhaps a degree of short sightedness in how, once enacted, it would be enforced. This is forgivable though, as forcing through prohibition through a mixture of political expediency propaganda and public support in the 20th century was no mean feat. America was now dry.

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FIVE KEY REASONS WHY PROHIBITION PASSED

Economic

Company owners were beginning to complain loudly that many of their workers were not performing their jobs to the required standard, because they often turned up for work either still intoxicated or hungover. There was also a feeling that as most of the beer drunk in America was imported from other countries – notably Germany, whom America declared war on on 6 April 1917 – that drinking alcohol was making the economies of other countries stronger.

Medical

By the 1910s, doctors were beginning to realise the detrimental effect that drinking could have on health. Increasing numbers of American men were being affected by sclerosis, and there was a growing feeling among numbers of the American establishment that alcohol was making their men 'unfit'. In the early 1900s, The American Medical Association went on record in opposition to the use of alcohol for either beverage or therapeutic purposes.

Political

The prohibition bill was put through parliament by politicians due to a their personal beliefs, public opinion and the pressure placed on them by the prohibition movement, most notably the ACL. Wayne B. Wheeler was a skilled political operative who used the position's support to turn the screw on politicians, and also made the most out of the government's plan for a new income tax, growing tensions with Germany and allying with other factions.

Social

Alcohol was considered to be a large contributing factor to spousal abuse and other family neglect, as well as a large contributory factor towards unemployment. Many women's rights groups who believed that banning alcohol was vital supported the temperance movement. New physiological and epidemiological studies published around the turn of the century portrayed alcohol as a depressant and plausibly associated its use with crime, mental illness and disease.

Religious

The prohibition movement was often closely linked with religion, and many of the movements founded were done so by those of a religious persuasion. At church services, the congregation would often sing songs against what they saw as "the demon drink", as they believed that it caused those who drank it to be sinful. Religious movements, due to the size of their believers, were powerful and played a key role in the instigation of prohibition.

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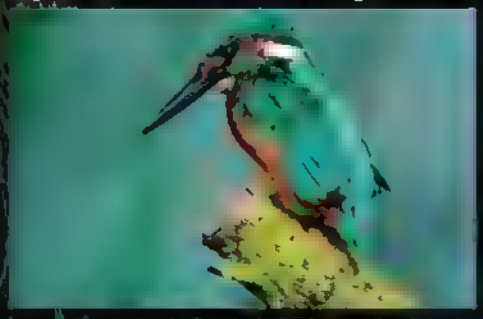

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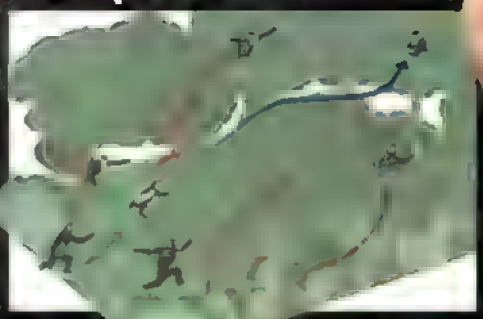

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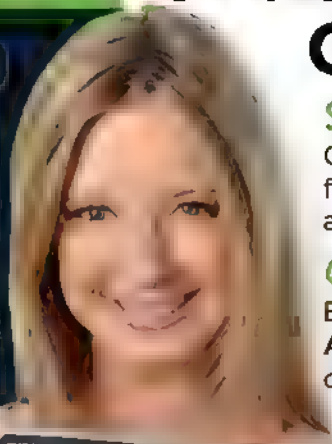

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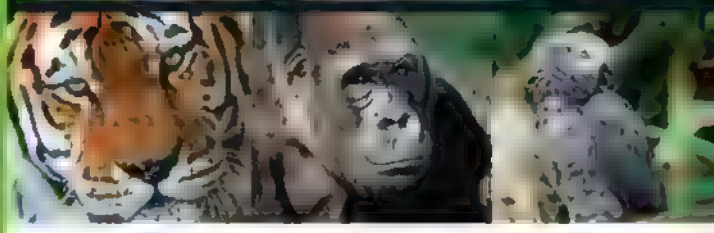

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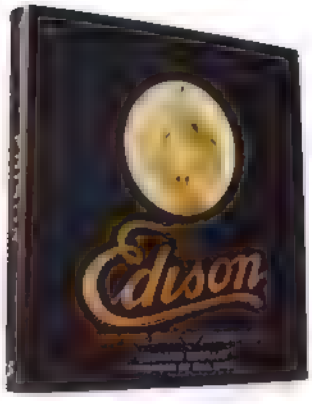
EDISON AND THE RISE OF INNOVATION

A bright spark is born

Author: Leonard DeGraaf **Publisher:** Sterling Signature **Price:** £28



One of the poster children of American go-gettums, it's immediately obvious from Leonard DeGraaf's splendid and satisfyingly weighty volume that Thomas Edison could only have come from the USA.

Born in 1847 to a large Ohio family, Edison is science's ultimate self-made man – self-taught and home-schooled, he got his start in the telegraph business after saving a rail boss' son from being hit by a train and soon began to experiment and improve, discovering that inventing for its own sake wouldn't pay the bills and that he had to create products that the market demanded. In short, it's pure American Dream stuff about the father of mass communication and mass media and it is entirely fitting that no less a figure than Microsoft's Bill Gates pays a glowing tribute to Edison in the foreword.

Commercial invention exists in all countries, but only the US – where the free market paradigm has always truly reigned supreme – would such a virtue have been made of it in contrast to invention for its own sake. The amazing collection of sepia-tinged letters, photos and crisp new studio shots of telegraph machines and the like, accompanied by DeGraaf's breezy prose, paint a compelling picture of a canny operator whose scientific genius was matched by his instinctive marketing nous and lashings of shameless PT Barnum drum-beating hucksterism.

DeGraaf, as archivist for the Thomas Edison National Historical Park, has access to an incredible volume of objects and documents – and we certainly see a number of them throughout – but it's the insight into Edison the man, rather than Edison the inventor of the lightbulb that proves the most compelling. It's certainly easier to take the things written about his home and family life at face value, in contrast to his heavily aggrandised career. Instead, *Edison and the Rise of Innovation* successfully humanises the man without taking away from his genius and, in fact, the banality of some of his discoveries and decisions seem all the more remarkable.

In the long-run, isn't Edison's pioneering use of research teams and a systematic approach to discovery far more influential than his inventing of the incandescent light bulb? After all, if he'd only done the former in his entire career, he'd have bequeathed the tools by which another had been able to do the latter.

It's thus that Gates muses on in his intro, giddy with the possibilities the Wizard of Menlo Park would have been able to explore with the manpower and resources of a Silicone Valley start-up. You could apply similar arguments to his focus on the personal brand, as well as his early recognition of the vital role of powerful sponsors in business and government in making or breaking a project, and the space DeGraaf gives to exploring this is long overdue and hugely welcome. It makes the difference between the personal history of Thomas Edison and a text about the history of science, after all.

Photography-laden tomes like this are often echoes of the best biography already written as insight takes a backseat to the visuals, but in *Edison and the Rise of Innovation*, Leonard DeGraaf has not only put together a beautiful hardcover artefact to pour over, but perhaps even the definitive biography too.

"The amazing collection of letters... paint a compelling picture of a canny operator"

Verdict ★★★★★

If you like this try...
Tesla: Inventor of the Electrical Age W Bernard Carlson
Because no mention of Edison is entirely complete without referencing Nikola Tesla.

TOP FIVE GREAT MINDS

More titles that shine a light on inventors

ERWIN SCHRÖDINGER AND THE QUANTUM REVOLUTION

Author: John Gribbin
Balancing a wife, a mistress, and the secrets of quantum physics was all in a day's work for the physicist behind thought experiment Schrödinger's Cat.

INSIDE THE CENTRE

Author: Ray Monk
In this entertaining text J Robert Oppenheimer ends World War II with his Atomic Bomb, then is forced to fight for his reputation against US Senator Robert McCarthy.

FEYNMAN

Author: Jim Ottaviani/ Leland Myrick
A wonderfully idiosyncratic and stimulating graphic novel about the equally idiosyncratic Richard Feynman, the Noble Prize-winning physicist and master of bongos.

THE STRANGEST MAN

Author: Graham Farmelo
This is a sensitive portrait of Englishman Paul Dirac, the 20th century's youngest Nobel Prize winner and the troubled yet brilliant master behind quantum mechanics.

EDWARD TELLER: THE REAL DOCTOR STRANGELOVE

Author: Peter Goodchild
Father of the H-bomb and Patient Zero of the Cold War arms race, Edward Teller risked his scientific reputation every step of his controversial career.

THE HAPPY LANDS

Not for historians, they aren't

Available on: Out now **Price:** £12 25 **Distributor:** Soda Pictures

Few films sum up the disconnect between authenticity and accuracy quite like Robert Rae's 2012 docu-drama *The Happy Lands*. Set against the backdrop of the 1926 General Strike when Britain was brought to a standstill, and according to some, the brink of revolution by the powerful trade unions, the film follows a coal-mining community around Lochgelly in Fife (the 'happy lands' of the title), where the striking miners held out against attempts to reduce wages and raise the working hours.

Produced by Theatre Workshop Scotland and using descendants of miners who grew up with the stories of 1926 as the principal cast (along with volunteers constructing the sets), the narrative is guided ably along by newsreel footage and contemporary voiceovers from the film's unorthodox stars. With memory and mythology taking the place of fact, there's a constant bias at work – which in pure cinema terms isn't necessarily an issue as all art is the product of a subjective experience, but for historians it presents a few problems. The cast and characters licence the sense of community and talk about playing in a street where every old woman was your grandmother, so that when this implausible industrial idyll of black lung, alcoholism and high infant mortality is punctured by a grasping mine boss – in the scene in which he's introduced, he's being appraised of a collapse and his only reaction is to hope it kills a communist for him – it approaches caricature so crude as to insult the viewer's intelligence. That's just the tip of the iceberg too, and he's the first of many self-satisfied class enemies to stand opposed to our stalwart proletariat heroes, fighting for their livelihoods and families.

If this were merely a drama, that wouldn't necessarily be an issue – there are more than enough historically unbalanced Hollywood movies out there to get worked up about – but as this comes swaddled in fact, the reflective newsreel segments could have benefitted from more context or hard-edged analysis to offset the militantly pro-strike storyline. Sadly they're used to reinforce the film's own internal politics – all red banners and renditions of *The Internationale* – and instead serve only to undermine it and its credibility.

> "The language and lives of the Fife miners have been captured in incredible detail"

There's undeniable passion from the amateur cast and while keeping the spiritual and literal descendants of the film's protagonist at the heart of the production may have had a detrimental effect on its balance, it imbues the proceedings with an undeniable sincerity. Jokie Wallace as union agitator Dan Gunthrie and a subtle turn from Kevin Clarke as veteran turned reluctant class war martyr Michael Brogan are standout performances.

Through these performances the language and lives of the Fife miners have been captured in incredible detail while subplots explore interesting areas such as attitudes to pregnancy, the effects of World War I on the community, as well as the successes and failures of local government to support and suppress its most vulnerable.

Taken as a companion piece to a hefty volume on British society between the wars, *The Happy Lands* undoubtedly brings a good deal of life and colour to the subject. However, as with many films purporting to be rooted in fact, this is liable to do as much damage to your understanding as good due to its liberal interpretation of actual events – a regretful but far too common side-effect.

The miners and their families' lives are explored

Verdict ★★☆☆☆

If you like this try...

Strike

Overshadowed by *Battleship Potemkin*, Sergei Eisenstein's silent masterpiece from earlier that same year is more blatant with its bias.

The aftermath of the miners' strike in Fife

HISTORY ON NETFLIX

Other historical shows worth consideration

DEATH BY CHINA

Director: Peter Navarro
Year made: 2012
Available: USA, Canada

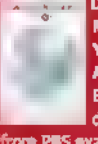
A frank look at China's growing economic power over the last two decades, which would have benefitted from a more thorough look at the Seventies and Eighties for a deeper insight into the changing balance of financial power.

DIRTY WARS

Director: Rick Rowley
Year made: 2013
Available: USA

A controversial exploration film that blurs the boundaries of documentary and fiction. It covers the background of the United States' covert military operations in places such as Yemen, Somalia and Kenya.

GREAT DECISIONS IN FOREIGN POLICY



Director: Rick Lopez
Year made: 2013
Available: UK

Eight half-hour documentaries from PBS examine everything from the Arab Spring to the democratisation of Burma with an amazingly high-profile array of talking heads. Narrated by Academy Award-nominated actor David Strathairn, this is literally tomorrow's history shown today.

1492: CONQUEST OF PARADISE

Director: Ridley Scott
Year made: 1992
Available: USA

Ridley Scott's early stab at historical film, this Columbus epic performed so badly it was overshadowed by comedy death rattle that was *Carry On Columbus*. However it's worth a watch for the little-known subject matter which is an unflinching portrayal of the brutality and injustice inflicted on the indigenous population of the Americas.

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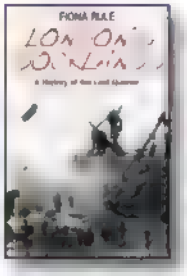

Normandy in the Time of Darkness
Everyday Life and Death in the French Channel Ports 1940-45
Douglas Boyd

This beautifully written book documents the horrific four year long tragedy that was Normandy's war - occupied by the Germans, and bombed by the Allies. Narrated largely in the words of French, German and Allied eye witnesses, this volume captures the personal stories of survivors, including the heart-breaking last letters of executed hostages and résistants.

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Captain Pye and his family members outside Buckingham Palace after he received his MBE

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Torpedo attack

As the Richmond Castle sunk to the bottom of the North Atlantic, the captain had to rally his troops before they were rescued

Linda Pye, Sussex

Like most people who served in the war, my dad never really spoke about his experiences. Suffice to say that he was very much a family man and the thought of getting back to his wife and daughter in time for the birth of the child expected in September was the overriding thing that kept him going while adrift in the ocean.

Although Dad never spoke of his experiences in the war, he was extremely proud of his MBE decoration and it was always used in his formal paperwork – the image of him outside Buckingham Palace was framed and hung in the lounge at home. The main information I have about the torpedo attack is an extract that the *Natal Mercury* printed after the war: 'During WWII when Captain Pye was serving as Second Mate in the Richmond Castle, the vessel was torpedoed in the North Atlantic in 1942. He and the other officers and crew spent a week adrift before being picked up.

'Captain Pye said two torpedoes struck the ship simultaneously, killing two crewmembers. The rest of the crew were saved. The German U-Boat surfaced after the kill and food and cigarettes were passed to the men in the boats. Captain Pye was awarded the MBE for this episode. Later he served in the old Llangibby Castle, which was used as an assault ship in the North Africa, Sicily and Normandy landings.'

Extracts from my father's reports have since come to light, and this is from his report on Tuesday 4 August 1942 after the ship had been sunk: 'The lifeboat lay with the sea and swell on the starboard quarter. The temperature had decreased appreciably and the boat's crew were continually bailing to keep her afloat. Several men showed signs of exhaustion.' On 10 August he wrote: 'At 0100 hours the Second Steward J. Cull died of exposure in spite of my efforts at artificial respiration. At 0300 hours Greaser J. Elvin drank seawater, fell over the side and was drowned. Mr Burrows, Senior Second Engineer and myself made efforts to save him but it was beyond our strength.'

I am extremely proud of my father and the role that he played in the war and the efforts that he made to help his crewmen.

Do you know someone who fought in WWII?

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Captain Pye gazes out at the ocean

Captain Pye and his family travelled to Buckingham Palace to receive his MBE

The ship the Richmond Castle was sunk by a German U-Boat

YOUR PHOTOS

Charnock was the first man to bring bananas into Britain since WWII

Return of the banana

Graham Charnock, Lancashire

Merchant Navy and served for 20 months, yet at only 17, he managed to get himself into history. On 25 February 1946, merchant ships were docking around England bringing in a cargo that had not been seen since the onset of the Second World War.

The MV Empire Helmsdale docked into Glasgow and my dad, a mere pantry boy, grabbed some of the cargo and managed to be the first crewmember off the ship with a huge bunch of bananas over his shoulder. Bananas were back in England again. The *Glasgow Daily Record* captured the moment my father came off ship and the headline read, 'Yes we have some bananas'.

to his hometown of Nelson in Lancashire and got an apprenticeship as a mechanic in a local garage.

Do you have any interesting historical photos to share with us?

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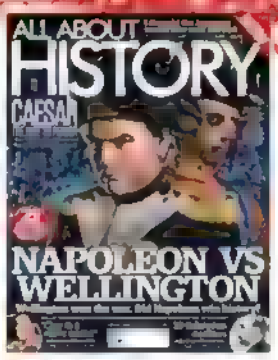

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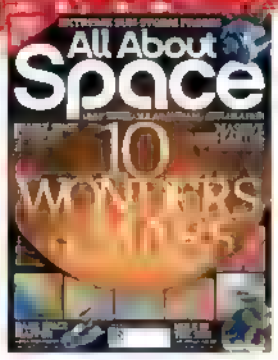

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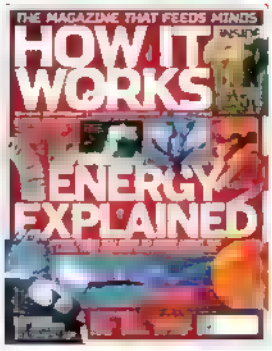

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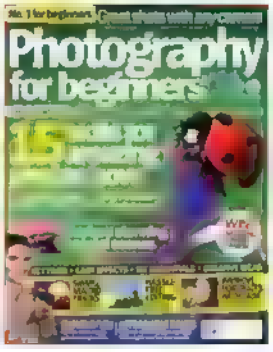

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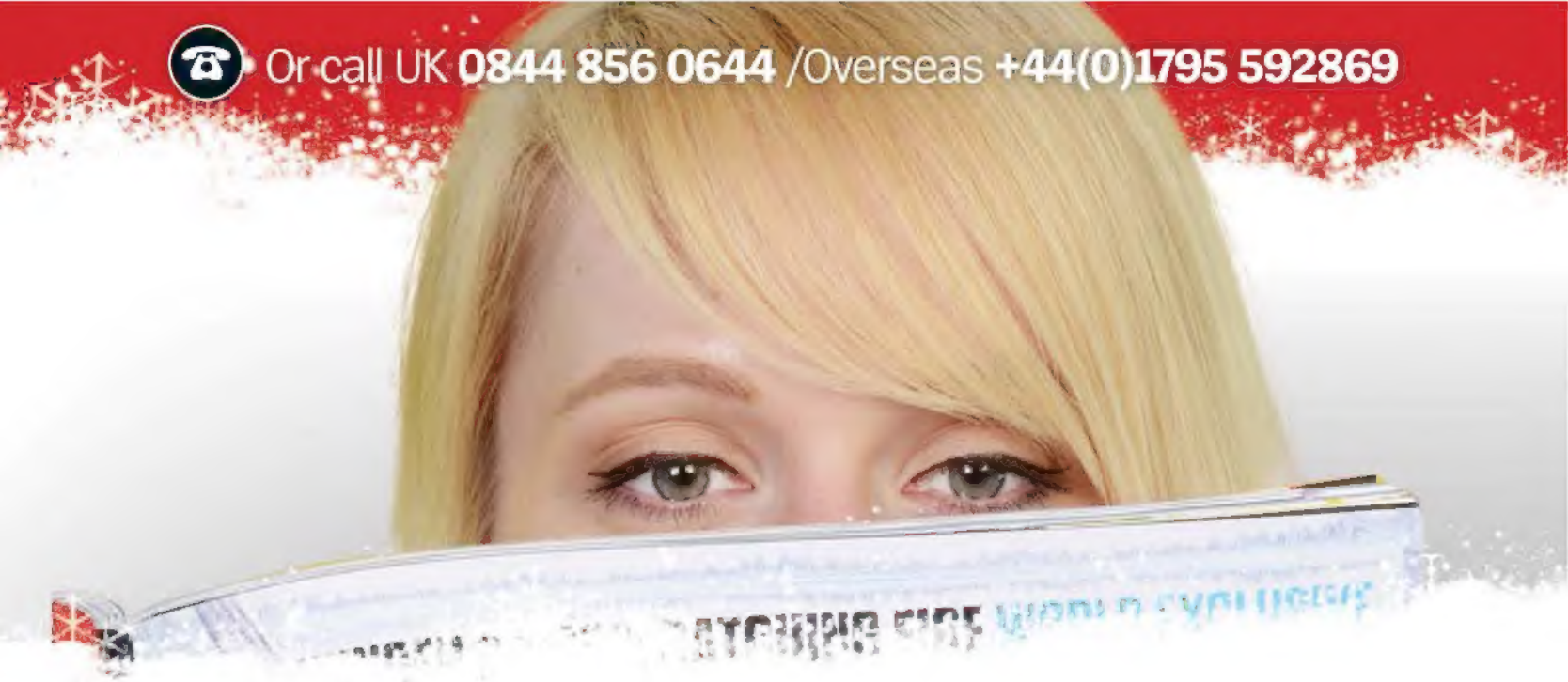

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HISTORY VS HOLLYWOOD

Fact versus fiction on the silver screen

LAWRENCE OF ARABIA

It may have swept the board at the 1963 Oscars, but how many awards will it win for historical accuracy?

Director: David Lean **Starring:** Peter O'Toole, Alec Guinness, Anthony Quinn **Country of origin:** Canada **Year made:** 1962

WHAT THEY GOT WRONG...

01 In the foreground of the Akaba raid scene, the Turkish Army are clearly shown using a Browning M1919 machine gun, which wasn't yet designed and therefore would not have been available.

02 When we first see General Allenby, he wears Overseas Service Chevrons on his lower right sleeve. These were only introduced in very late 1917, several months after the period being depicted.

03 In the movie, Farraj is mortally wounded by a detonator going off in his clothes, but in his book *The Seven Pillars of Wisdom*, T.E. Lawrence writes that Farraj was wounded by a Turk shooting him.

04 The idea that Lawrence's Arab army almost entirely deserted him as he moved further north, as shown over the second half of the film, is inaccurate. According to records, only one or two Arabs actually deserted.

05 It is implied in the early scenes of the film with Colonel Brighton and Prince Feisal that the major sea port Yanbu is fifty miles south of Wadi Safra, when in reality it is approximately five miles west of it.

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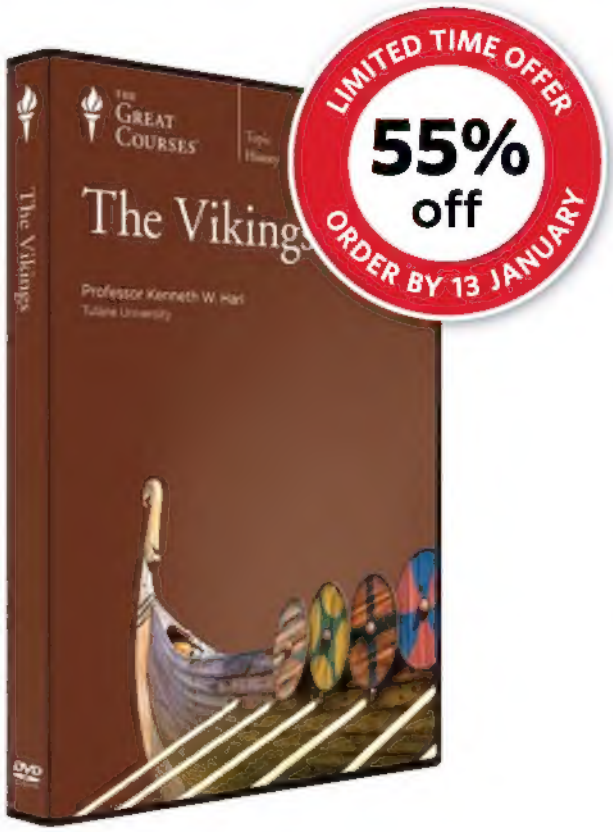

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THE RISE OF AVIATION

1910's
Handley Page O/400

The Handley Page O/400 was one of the first heavy bombers used by Great Britain during the First World War. Entering service in April 1918, the O/400 was able to carry a single 1,650lb bomb often operated in formations of up to 40 aircrafts, firstly during the day, then later increasingly at night.

1940's
Avro Lancaster B.III (Special)

While the Lancaster saw the vast majority of its service as a high altitude night bomber attacking strategic targets deep within Germany, notably its involvement in the battles of the Ruhr, Hamburg and Berlin, it was the daring low-level raid of Operation Chastise that gave the Lancaster arguably its finest hour.

1950's
Vickers Valiant BK.Mk.1

The Valiant was the first of the RAF's V bomber trio to enter service. It was the first RAF machine to drop a hydrogen bomb during the Operation Grapple tests in 1957. However its career was cut short by serious problems with its rear spar, leading to fatal accidents and subsequently grounding the fleet.

2000's
Panavia Tornado GR4

617 Squadron RAF will forever be associated with the Dambusters Raid. This is an event the Squadron rightly celebrates every year and with 2013 being the 70th anniversary of the raid, two Tornado GR4s have been specially painted to mark the event. Based at RAF Lossiemouth in Scotland the Squadron specialises in using its Tornados for dangerous low level missions, as well as anti-shipping strikes and standoff attacks using cruise missiles.

A09007 Avro Lancaster B.III (Special)

A11001 Vickers Valiant BK.Mk.1

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